GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF EDUCATION

FOODS, NUTRITION AND HOME MANAGEMENT MANUAL

HOME ECONOMICS CIRCULAR No. 1
(REVISED)

AUTHORIZED BY THE MINISTER OF EDUCATION

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Class I

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FOREWORD.

To the Teacher:

This manual is intended for the use of the students of Home Economics in elementary and junior high school classes. It is prepared primarily for the purpose of eliminating the necessity of copying notes and recipes in these classes, and encouraging the pupils to get information from the printed page. Because of the close relationship between health and careful food selection and preparation, it is to be hoped that this manual may stimulate in the students a keener interest in better food standards.

The recipes have been gathered from various sources, and have been adapted to the work in the class-room with the thought of economy through the use of the least expensive materials. They are reliable; the portions given in each recipe are, generally speaking, sufficient for the average family of six and may be used satisfactorily in the home.

The subject-matter is presented in rather a concise form and should be supplemented by the teacher from readings in the various reference books. It may be advisable to remind you that the amount of subject-matter, except on nutrition, is supposed to be sufficiently extensive to include the work of Grade IX. Judgment must be used in the selection of the subject-matter to be taught to Grades VII. and VIII.

It is most advisable that we prove that Home Economics is not an " unprepared subject," and so as to make it somewhat easier for the teacher to make home or class-room assignments lists of questions have been prepared which I hope will be used with discretion.

It is only when a manual of this type is put into the hands of the student that we get the interest in " Home Practice Work." Extra recipes and variations are frequently added to stimulate the interest of the student so that she will go farther than merely repeating the efforts in the class-room. " Power to do is gained only by doing."

Blank pages are added at the back for any additional recipes which the individual teacher may wish to add.

JESSIE L. McLENAGHEN,

Provincial Director of Home Economics.

CONTENTS.

FOODS, NUTRITION, AND HOME MANAGEMENT.

UNIT I. HOME MANAGEMENT.

Home management is the wise spending of ourselves, our strength, time, and money. Efficient home management depends on:—

1. Labour-saving furnishings and equipment.
2. Step-saving arrangement of equipment.
3. Improved methods of work.
4. Efficient planning of work.
5. Simple living.

The Efficient Kitchen.

Since the average home-maker spends a large proportion of her time in the kitchen, this is one of the most important rooms in the house. The efficient kitchen is one that is planned to allow the maximum amount of work with the minimum amount of effort.

In planning a kitchen for a new home, or in remodelling an old one, the following points should be considered.

1. LOCATION.

The most desirable location for the kitchen is at a corner of the house. If the summers are hot, the north and west sides of the house are desirable; otherwise the east and south provide bright sunshine in the mornings when the greater part of the work is going on. The kitchen must, of course, be next to the dining-room, but a direct view from the dining-room into the kitchen should be avoided.

2. SHAPE AND SIZE.

A rectangular-shaped kitchen is generally recommended as it permits of a more compact and more convenient arrangement of equipment. Irregular shapes with many niches and corners are less efficient. The size depends on the various activities carried on in the kitchen. Usually a kitchen in a farm home needs to be larger than the one in a city home. Suggested dimensions are 8 by 10 feet, 8 by 12 feet, or 9 by 12 feet.

3. BRIGHTNESS AND ATTRACTIVENESS.

(*a.*) *Lighting.*—Windows placed at two sides of the room are preferable for ventilation and should be so arranged that the worker gets good light at the work-table, the sink, and the stove if possible, from the left. Windows should not be too low, in order that it may be possible to place a sink or a work-table below them. In remodelling a kitchen, the long, vertical window may be turned to a horizontal position. It should be made to slide back at the sides for ventilation. A swinging glass panel in the outside door may serve the same purpose as a second window.

Artificial lighting should be so arranged that the worker will not need to strain her eyes and nerves because of inefficient light. Every centre should be lighted so that the worker's shadow never falls upon her work.

(*b.*) *Finish of Walls and Floors.*—This adds much to the attractiveness of the kitchen. The floor should be easy to clean, easy to walk on, and pleasing in appearance. Linoleum is probably the most desirable floor-covering. Inlaid linoleum is more expensive than printed linoleum, but is much more satisfactory.

The finish of the walls should be smooth and easy to clean. Oil paints over fine-grained, hard plaster washes easily. A whole room of white, glossy finish should be avoided, as it is too glaring. Attractive colour may be introduced through light-tinted walls and woodwork. Accent may be secured through coloured curtains and painted canisters.

Arrangement of Equipment.

The work done in the kitchen, centres around *the preparation and serving of meals* and the *clearing-away, washing, and storing of dishes.* The equipment in a convenient kitchen is so arranged that these two main kinds of work can be done easily and in the shortest possible time.

The food-preparation centre should include:—

1. A cooler or refrigerator.
2. A cupboard for staple foods and utensils.
3. A work-table.
4. A stove.

Because of the heat from the stove, the refrigerator and the stove should not be placed together. For convenience in icing, the refrigerator should be placed near the outside door.

Staple food materials should be stored near the work-spaces. Utensils used together should be grouped and placed near the work-spaces where they will be used.

The dish-washing centre should include the sink, with drain-boards, and a storage-cupboard for dishes at the left of the drain-board. Cupboards opening into both kitchen and dining-room are efficient. Vegetable-storage should be provided convenient to the sink, with some means of outside ventilation. A small table on wheels is a labour-saver in any kitchen.

For convenient arrangement of equipment, *see* " Foods and Home-making," by Greer, page 145.

Working-surface Heights.

Next to the importance of a convenient arrangement of equipment in the kitchen is the importance of having the height of work-tables suited to the height of the worker. No one can do work well in an uncomfortable position. The correct working-surface for an individual is that height at which she can work comfortably with the back and shoulders straight and the arms in a natural position. Correct working-surface heights vary with the *height* of the individual, the length of the forearm, and the distance from the waist to the floor.

The following tests may be applied by individuals to determine their correct working-heights:—

1. Tables and Stoves.

The height of tables and stoves is correct when one can stand erect with shoulders back and place the palms of the hands flat on the surface.

2. SINKS.

The height of the sink is correct when one can stand erect and place the knuckles of the doubled fist on the bottom of the sink. This height is usually 1 or 2 inches lower than the table height. If the sink is too deep, a small wooden slat frame may be used on the bottom to raise the dish-pans while washing dishes.

3. STOOLS.

When sitting on a stool, one should be in the same position at the table as when standing at the table. A depth of from 5 to 9 inches should be allowed for knee-space between the stool and the table.

Care of Equipment and Utensils.

DISH-WASHING.

Preparation.—1. Collect all dishes; scrape and rinse; pile together dishes that are alike.

2. Soak dishes which have contained starch, milk, or eggs in cold water. Soak dishes which have contained fat or sugar in hot water.

3. Wipe out all greasy pans with paper before washing.

4. Fill two dish-pans about two-thirds full with hot water; make one soapy for washing and use the other for rinsing.

5. Place rinsing-pan to the left of the dish-pan and work from right to left (except in case of left-handed children).

Directions for Washing.—1. Wash the cleanest dishes first in the following order: Glass, silverware, dishes (beginning with cups and saucers), cooking-utensils. Rinse all dishes in clear hot water, changing the water as often as necessary.

2. Scour steel knives with sapolio or Bath brick. (*See* page 10.)

3. Wooden handles should not be soaked. Do not put the cogs of the Dover egg-beater in water.

4. Tables should be scrubbed with clean hot water and soap, rinsed and dried thoroughly.

5. Towels should be washed in clean, hot, soapy water, and rinsed twice in clear water.

6. Wash and dry dish-pans, inside and out.

Care of the Sink.

1. Wash porcelain sinks with soap and water, using coal-oil or sapolio to remove stains. A coarse scouring-powder will remove the dirt but will injure the smooth finish.

2. Rinse the sink by letting a generous supply of hot water run down the drain-pipe.

3. Periodically, clean the drain-pipe by pouring a solution of washing-soda down the pipe (½ cup of washing-soda to 2 qts. of water). Rinse with plenty of hot water.

Care of the Garbage-can.

1. Line the garbage-can with a clean newspaper.

2. Put only solid material in the can; drain off all liquid. The use of a sink-strainer helps.

3. Keep the can covered.
4. Scrub out and scald the can thoroughly each week.

Care of the Refrigerator and Cooler.

1. Keep it clean and dry. Wash it once a week with cold water containing washing-soda (1 tbsp. of washing-soda to 1 gal. of water). Work quickly. Wipe with a dry cloth. If moisture collects on the walls or floor during the week, dry them. If food is spilled in the refrigerator, wipe it up immediately. Wash the drain-pipe once a week. A slender brush is good for this purpose. Washing-soda solution may be poured down this pipe.

2. Keep the refrigerator will iced. Keep the ice compartment filled at least one-half.

3. Put neither paper nor food on top of the ice. Food should be placed on the shelves and floor and not in the ice compartment. If paper or food covers the surface of the ice it interferes with the circulation of air. Also, the refrigerator does not reach as low a temperature when the ice is covered.

4. Keep the doors tightly closed. A refrigerator door should not be slammed to close it. Lift the latch with your hand and close gently. Slamming the door may weaken the latch so that in time it will fail to fasten the door securely. Do not open the door more often than is necessary.

5. Place no hot foods in the refrigerator. If foods such as gelatine are to be chilled, let them cool before placing in the refrigerator.

6. Dairy products should be placed on the lower part of the refrigerator, because they have a tendency to absorb odours.

7. Set food away in clean dishes and in dishes as small as possible.

8. Do not place things on top of the refrigerator as it makes it look untidy.

Care of Stoves.

A. The Gas-stove.

Lighting.—1. To light a gas-stove, first light the match and then turn on the gas. It is dangerous to allow gas to escape unburned.

2. The gas should burn with a blue, not a yellow flame. A blue flame is clean; a yellow flame deposits soot on cooking-utensils. A blue flame is hotter than a yellow flame. By turning the gas up or down you may be able to get a blue flame. If this method is not successful there may be too little air mixing with the gas. More air will mix if the openings through which the air may enter are made larger.

3. When a slight roaring occurs too much air is usually being mixed with the gas. Turn off the gas at once. Relight and, if necessary, adjust the mixer so that less air enters.

Cleaning.—1. Underneath the surface burners there is a tray which should be removed and washed daily.

2. If food boils over, wipe the burner with a cloth as soon as possible.

3. If the holes of the burner become clogged, insert a skewer or other sharp-pointed tool into the holes. Occasionally remove burners and wash them.

4. The mixer should be kept clean.

5. Enamel parts of the stove are merely washed with soap and water and dried.

6. If metal is not protected with enamel it should be oiled after washing to prevent rusting. Light paraffin-oil is best, but kerosene may be

used. Vegetable oils, as Mazola and Wesson oil, are unsatisfactory as they are sticky and hard to remove.

7. The cloth used to oil the stove should be kept in a covered metal container. Why?

8. If the oven lining is enamelled it is cleaned by washing. If it is of uncoated metal it may be cleaned with scouring-soap or steel wool.

9. Food that spills on the floor of the oven should be scraped off as soon as possible.

10. To prevent rusting, the oven door should be left partly open while the oven is cooling.

B. The Electric Stove.

Electric stoves are usually equipped with three heats, low, medium, and high.

1. Heat should be turned to low when food is boiling, so as to conserve electricity. With closed elements a good deal of cooking can be continued after the current is turned off.

2. Especial care should be taken to prevent food from spilling on plates.

3. If elements are closed, turn off heat and wipe up spilled food.

4. If elements are open, turn off heat and wipe up as much food as possible. Then turn on heat and let the rest burn off.

5. The new high-speed elements can be taken apart and easily cleaned.

C. The Coal-stove.

Lighting.—1. Remove all ashes so that fuel when placed may be supplied with air.

2. Place crumpled paper on the bottom of the fire-box.

3. Place sticks of kindling-wood criss-cross on the paper.

4. Place a few pieces of coal on top of the kindling.

5. Open all dampers to provide a direct draught.

6. Apply a lighted match to the paper.

Problem.—To explain a draught.

Apparatus and Materials. — A candle, a saucer, a slender lamp-chimney, and matches.

Method.—1. So as to make the candle stand upright in the saucer, melt it slightly on the bottom by holding to it a lighted match. Place it quickly in the centre of the saucer and when the wax hardens, the candle will stand firmly.

2. Light the candle and hold the chimney over it, keeping it at least ½ inch from the bottom.

3. Place a piece of cardboard over the top of the chimney.

4. Remove the cardboard and chimney, and relight the candle. Replace the chimney, allowing it to rest on the saucer.

Observations.—1. Does the candle continue to burn under conditions as outlined in (2)?

2. What happens in (3)?

3. What happens in (4)?

Conclusion.—What conditions seem to be necessary to keep the candle burning?

A continuous stream of air cannot be supplied to a fuel unless there is an opening both *below* and *above* it.

In the stove the air enters through the grating of the fire-box, while the gases resulting from the burning fuel pass up the chimney.

The passage to the chimney is controlled by the opening and closing of small doors called " dampers." To start a fire it is necessary for these dampers to be so arranged that the smoke will be allowed to pass directly out through the chimney. The damper in front of the fire-box and the one in the pipe must be left open to provide what is called a " direct draught."

With a direct draught the fire burns briskly, the top of the stove becomes heated, but the oven is heated very slightly. Foods placed in the oven would not cook on the bottom.

The oven is just like a box closed in on all sides, but placed so that there is a space around it. By closing the damper in the pipe the hot gases cannot pass out of the chimney directly, but are forced through the space surrounding the oven and then out the chimney. By doing this they heat the bottom of the oven and make it possible to bake satisfactorily. When the dampers are so arranged that the hot gases pass around the oven, the draught is said to be " indirect."

(For cuts illustrating direct and indirect draughts, *see* " Foods and Homemaking," by Greer, pages 183 and 184.)

Cleaning.—1. Allow to partly cool and wash off with soap and water.

2. Slightly oil as suggested for gas-stoves.

Regulating Oven.—1. Use a thermometer to determine temperature.

2. Check fire and oven-heat:—

(*a.*) By closing front dampers.

(*b.*) By lifting a lid off the stove. A rush of cold air on top of the coal makes it burn more slowly.

(*c.*) By placing a pan of cold water in the oven.

Care of Bread-box.

1. Wash twice a week or often with hot water and soap.
2. Rinse with boiling water.
3. Dry and air in the sun if possible.

Care of Bake-board.

1. Scrape with the back of a knife and remove loose material.
2. Wash over with cloth and cold water.
3. Scrub by way of grain, using soap.
4. Rinse well with warm water.
5. Dry thoroughly, placing in the sun if possible.

NOTE.—If oil or fat is spilt on wooden surfaces, pour cold water on to harden it, or sprinkle it with flour or starch to absorb it; then scrape and scrub with hot water and soap.

Care of Milk-bottles.

1. Rinse at once with cold water and leave filled until ready to wash.
2. Wash in hot, soapy water, and rinse with very hot water.

Care of Silver.

1. To avoid scratching, wash kinds separately. Hold a few pieces in the hand and wash.
2. Use hot, soapy water.

3. Dry and polish by rubbing with a towel. Silver is brighter if wiped without rinsing. There is no taste of soap.

4. Store neatly in cases or in a drawer divided into sections for the purpose.

5. Do not have matches or rubber bands near silverware.

Cleaning Silver.

FIRST METHOD.

1. Place silver and cleaning apparatus on newspaper.
2. Sift whiting.
3. Apply with a soft cloth, using ammonia or water. A soft toothbrush may be used for raised surfaces.
4. Allow to dry and rub off.
5. Wash in hot, soapy water, and dry thoroughly.

SECOND METHOD.

1. Use an aluminum pan (not tarnished).
2. Put water, salt, and baking-soda into the pan. (For each quart of water use 1 tsp. salt and 1 tsp. soda.)
3. Place silver in the pan. There should be enough water to cover it.
4. Place pan over the flame and heat it until the tarnish disappears.
5. Pour off the water, wash in hot, soapy water, and dry thoroughly.
6. Instead of an aluminum pan a granite pan may be used in which an aluminum strip or spoon is placed. It is necessary that each piece of silver touch the aluminum in the process.

Cleaning Copper and Brass.

1. Wash thoroughly.
2. Dip soft cloth in vinegar and then in whiting or salt and scour the metal.
3. Wash and dry, rubbing with a soft cloth.

"Brasso" is a commercial cleaner that is most effective.

Cleaning Steel Knives.

1. Wash and scour with powdered Bath brick, using a large cork or a cut potato for scouring.
2. Wash again in hot, soapy water, rinse, and dry.

Cleaning Graniteware.

1. Scour stains with sapolio or scouring-powder.
2. Do not scrape food from granite, as it chips.
3. Soak well. If dish contains starch, milk, or eggs, soak in cold water; if it contains fat or sugar, soak in hot water. Boil, if necessary, to loosen clinging food.
4. Dry well with a towel.

Cleaning Aluminum.

1. Use mild soap and hot water.
2. Do not use soda or ammonia. A little weak acid will brighten aluminum.
3. Rub with steel wool when necessary.
4. Boiling with fresh water will soak off any burned food. For other foods, *see* directions under "Dish-washing."

Cleaning of Nickel.

1. Wash with soap and water.
2. Polish with sifted whiting applied with a soft cloth dampened with ammonia or water.
3. Let dry and rub.

Cleaning of Tin.

1. If greased slightly when new and warmed slowly without burning it will not rust.
2. Wash with warm water and soap and dry thoroughly.
3. Do not attempt to keep tin bright. Scouring wears off the tin.

Care of Cleaning-cloths.

Cleaning-cloths will not do good work if they are not clean. No one enjoys handling oily, dirty rags.

1. Soak cloths in warm, soapy water.
2. Wash in plenty of hot water, using a good laundry-soap.
3. Rinse thoroughly twice and hang in the sun to dry.

Care of Floors.

1. Remove or cover all food before sweeping.
2. Sweep with short, firm strokes, keeping the broom close to the floor, raising as little dust as possible.
3. Gather the dust together and take up with a brush and dust-pan.

A. Waxed Floors.

DAILY.

1. Sweep with a soft-haired brush.
2. Rub or wipe with a covered brush or oiled mop.

NOTE.—If mop is used, care must be taken to shake it well after using and to wash it frequently.

WEEKLY.

1. Rub all spots with kerosene. (Rewax if necesary.)
2. Polish with a weighted brush.

SEASONAL.

1. Clean with turpentine or wash with soap and water.
2. Dry, rewax and polish.
3. Replace wear with new wax and polish.

B. Varnished Floors or Linoleum.

Printed linoleum wears better if varnished when new and waxed lightly every week. Inlaid linoleum should just be waxed.

1. Sweep with a hair brush.
2. Wipe with a damp cloth.
3. Wash small sections at a time, using little water and mild soap.
4. Rinse and wipe dry.
5. Once a week wipe with a cloth wet with 1 part turpentine or kerosene and 1 part boiled linseed-oil.

Care of Brooms and Brushes.

1. Thoroughly shake after using.
2. Hang by handle.
3. A broom covered by a cotton bag helps in dusting walls. Wash bag after using.

Care of Varnished Wood other than Floors.

1. Use furniture-polish. *Avoid* alcohol, soap and water, and ammonia.
2. Apply with very light pressure.
3. Dry perfectly and polish.

Care of Painted Wood.

1. Dust wood carefully.
2. Wash with mild soap and warm water.
3. Begin to wash at the top of the wood and work downwards. Use as little water as possible on the wood. Change water often. Do not try to clean with dirty water.
4. Rinse well and dry.

Cleaning Windows.

1. Remove curtains and shades.
2. Dust shades on both sides, using a damp cloth.
3. Dust window and woodwork around it both inside and outside.
4. Prepare pan of hot water, adding 1 tsp. of ammonia to each quart. Alcohol is good in winter-time.
5. Dip a piece of cheese-cloth in the water. Squeeze until almost dry, and wash the glass well with this. Rinse cheese-cloth frequently. Do the corners carefully, using a skewer if necessary. Begin at the top of the window and work done.
6. Dry with cheese-cloth or linen free from lint.
7. Polish with a chamois, crumpled newspaper, or tissue-paper.
8. Replace window-shade.

Choose a dull, not a sunny or a frosty day for window-cleaning.

The cleaning of the woodwork will depend on whether it is painted or varnished. (*See* notes above.)

Care of Furniture.

RECIPE FOR FURNITURE-POLISH.

1 c. or ½ pt. boiled linseed-oil. (This preserves the wood.)
1 c. or ½ pt. turpentine. (This polishes.)
½ c. or ¼ pt. vinegar. (This removes stains.)
¼ c. methylated spirits. (This dries and gives a gloss.)

Mix vinegar and oil gradually to a thick cream; then add turpentine and spirits. Bottle and shake well before using.

CLEANING.

(*a.*) Upholstered furniture: Brush well with a dampened whisk.

(*b.*) Leather cushions: If soiled, wash with a soft cloth wrung out of tepid water. Dry at once with cheese-cloth. Polish as below.

(*c.*) Woodwork: If sticky, wash with tepid water and a mild soap. Rinse and dry at once.

POLISHING.

1. Apply a small amount of polish with soft cloth.
2. Rub hard with a rotary motion until polish disappears.
3. Polish lightly with the grain, using a soft cloth—flannelette is good.

QUESTIONS.

1. Why should sinks, refrigerators, and cooking-utensils receive especial care with regard to cleanliness?
2. What care would you give a garbage-can daily? Weekly?
3. What proportion of washing-soda and water should be used in cleaning the drain-pipe of the sink? In cleaning the refrigerator?
4. Why is it better to keep the refrigerator well iced?
5. State a reason for keeping refrigerator doors closed as much as possible. For placing only cold foods in refrigerator. For placing dairy products in the lower section of the refrigerator. For not putting food in the ice compartment.
6. What is likely to occur when too little air is mixing with the gas in the gas-burner?
7. What causes a roaring noise when the gas-jet is lighted? How may this be remedied?
8. What should be done when food boils over on a gas-stove? On an electric plate?
9. How should the enamel parts of a stove be cleaned?
10. Why should an oiled cloth that is used to clean stoves be kept in a covered metal container?
11. How may we prevent ovens from rusting?
12. In a coal-stove, what methods would you use for checking the fire and lowering oven-heat if the oven were too hot for the cake you wished to bake?
13. What care should you give a bread-box? A bake-board?
14. What inexpensive silver-polish could be used on silverware in the home? Describe a second method of cleaning silverware.
15. Is it absolutely essential to rinse silver after washing in hot, soapy water? What reasons could you give for not doing so?
16. What effect have matches and rubber bands on silverware when they come in contact with it?
17. Name two cleaning agents for brass.
18. How would you clean steel knives?
19. What care should be given to graniteware? Aluminum? Nickel? Tin? Cleaning-cloths? Floors? Waxed floors? Linoleum? Varnished floors? Windows? Brooms and brushes?
20. Why is the common housefly so dangerous?
21. Suggest five ways of practising economy in buying food.
22. State clearly the steps in dish-washing.
23. How many tbsp. in a cup of milk?

LAUNDERING.

Laundering is one of the oldest arts in existence. The earliest methods depended entirely on the action of running water, the friction against the stones, and the shaking, twisting, flapping, slapping, or pounding of the clothes. We find to-day many of the up-to-date washing-machines use these

methods; or where there is not a machine, one uses a board and rubs the garments against it, thus securing friction.

The old method of washing was a purely mechanical one. We now employ the aid of chemicals in the form of water-softening materials, soaps, bluing, starch, stain-removers, etc., as well as motors to run the machine and do away with drudgery.

Materials.

Nature's purifiers—sun, air, and water—stand first on the list of necessities for laundry-work.

The sun's rays have wonderful properties, and on them we depend greatly for bleaching our clothes.

Water.

Water is our chief dirt-carrier, and more depends upon the kind of water we have for laundry purposes than upon anything else. Soft water is best if it is clear and free from odours. Hard water may be either temporarily or permanently hard. If it is only *temporarily hard*, this is due to the presence of lime salt. *Boiling* often softens temporary hardness of water by depositing the lime salt in the form of limestone on the inside of the vessel. Thus we find many tea-kettles containing lime-deposits. *Permanently hard water* is, however, a more serious problem, and can be remedied only by the use of common substances called alkalis. The most common alkalis are: (1) Washing-soda; (2) lye; (3) borax; (4) ammonia.

Washing-soda.

This is a cheap but very effective alkali for softening water. It is too strong for fine materials and removes the colour from coloured clothes, but it is excellent for whitening white linens and cottons.

Rules for Using Washing-soda.

Dissolve 2 lb. of washing-soda in 1 qt. boiling water. Use from 2 to 4 tbsp. to 1 gal. of water. It is always wise to have washing-soda solution on hand. It should always be thoroughly dissolved as the dry or wet crystals eat into fabrics.

Lye.

Lye is very difficult to handle as it is hard on fabrics and hands. It is very strong. One tin of lye equals 12 lb. of washing-soda. The usual proportion is 1 tsp. to 1 gal. of water. The clothes must be well rinsed as lye has a strong odour. *Lye has a bleaching-power*, so should not be used for coloured clothing, and it is too strong for fine materials such as silk and wool.

Borax.

Borax is a mild alkali. It is more expensive and not so effective for bleaching clothes. It is very desirable for fine fabrics, however, and should be used for softening the water for woollens, silk, and delicate materials. Use 1 tbsp. to 1 gal. of water.

Ammonia.

Ammonia is another mild alkali and is inexpensive. It is better to use liquid ammonia than powdered ammonia. Ammonia should be used only when the operation of washing is to following immediately, as it evaporates readily.

Soap.

Soap will soften water, but if the water is very hard a very great deal is required, making it an expensive method. If hard water is used, unsoftened, with a small amount of soap, soap-curds are formed, which settle on the clothing during the process of washing, and the cleansing action of soap is destroyed.

Soap is a very necessary material for laundry-work and the correct choice of soap is of very great importance. Every laundry should have two or more grades of soap:—

Mild soap, used for washing woollens, silks, and coloured clothes.

Medium soap, for fine white cottons and linens.

Strong soap, for coarser materials. These soaps cause many coloured materials to fade.

All soap ends and chips should be kept and melted down into soap solution.

Soap Solution for Boiling or for the Washing-machine.

Dissolve 1 lb. soap-chips in 5 gals. of water, or dissolve 1 cake soap cut in shavings in 2 qts. of water, by heating at a low temperature. Overcooking makes the solution dark.

Purchasing Soap.

Select a soap of a reliable firm and give it a trial. Soap will last longer and be more satisfactory if bought in large quantities and kept until dried out thoroughly before using.

General Rules for Washing.

1. Sort the clothes, putting articles of a kind together: (*a*) Table-linen and fine towels; (*b*) bed-linen; (*c*) fine lingerie and slightly soiled handkerchiefs; (*d*) underwear; (*e*) towels; (*f*) coloured clothes; (*g*) woollen clothes; (*h*) stockings. Handkerchiefs, if used for coughs or colds, should be soaked in salt water, boiled separately for one half-hour, and washed well.

2. Remove stains and mend all tears, except those in stockings or underwear, so as to save a larger tear which is likely to result from the washing.

3. Soak white clothes in lukewarm water overnight. This removes some of the stains that are soluble in cold water and opens the pores of the fabrics so that the warm suds will penetrate more readily.

4. Wash in warm water, 120° F. to 130° F., in which the soap solution (*see* page 14) has been dissolved so as to make a permanent suds. The temperature of the first wash is most important, as the use of too hot water will set many types of stains that may have been overlooked. A disregard of this fact causes much trouble in getting clothes white. Run the machine 10 to 20 minutes.

5. If the clothes are very dirty, a second washing in hot suds, 140° F. to 160° F., is advisable.

6. Rinse twice in hot water, the first being somewhat hotter than the second. This will take care of any stains that have resisted the washing and will clear the clothes.

7. A third cool rinse is advisable. If bluing is to be used it may be added to this water. Thorough rinsing is as important as thorough washing. Soap or soda left in the clothes tends to make them yellow, and those not thoroughly rinsed will scorch more readily.

8. To use successfully, the blue water must be kept in constant motion so that the bluing is not permitted to settle. Before putting the clothes into the blue water shake them out. Do not allow clothes to stand in blue water. If the machine is used, operate it for about 5 minutes.

9. Starch, if necessary. (*See* page 21.)

10. In putting the clothes through the wringer, care should be taken to straighten out each article, folding the buttons in, so that they will not tear off, break, or mar the wringer-roll.

11. Do not have the wringer tight for table-linen. A tight wringer causes creases that are difficult to remove.

12. Dry in the sun when possible.

13. In hanging the clothes, put all of one kind together, primarily, to facilitate the sorting when you come to sprinkle them.

14. Turn everything inside out before putting it on the line, and to avoid tearing attach securely by the part on which there will be the least strain.

15. In hanging such articles as sheets, spreads, and table-linen, put half of them, or at least a generous amount, over the line.

16. When removing clothes from the line, fold them carefully, and much time will be saved in sprinkling and ironing them. Be especially careful to fold the large pieces, such as table and bed linen, in the correct way before putting them in the basket.

17. Sprinkle the clothes with warm water as it penetrates the fabric more readily. A whisk or spray-nozzle is helpful. All clothes should be well and evenly dampened, but not wet. Piles of flat pieces, like napkins, should be laid the same side up, as it is easier to handle them when ironing.

18. After sprinkling, all articles should be rolled tightly, packed firmly into a basket, and covered with a clean cloth until ironed.

19. In cold weather, clothes may be left dampened overnight; but in warm weather, the conditions for the growth of mildew are too favourable for the clothes to be left more than two or three hours with safety.

20. Heat iron until it hisses with dampened finger. Place garments over padded ironing-board and iron until dry.

21. Fold neatly.

The Ironing of Linens.

1. A good linen is sufficiently stiff if ironed while very damp. (It should be dampened several hours before ironing.)

2. A high lustre is obtained by wringing the linen out of boiling water and ironing immediately with a very hot iron on the right side.

3. Embroidered linens should be placed over a heavy pad and ironed on the wrong side until perfectly dry.

4. Centrepieces are first pulled into shape and then ironed from the centre to the edge.

The Ironing and Folding of a Table-napkin.

1. Place the napkin on the table, wrong side up, with the monogram or initial on the upper right-hand corner, and iron until dry.

2. Fold the lower edge almost to the upper edge and iron.

3. Fold the lower edge to the upper edge again and iron.

4. Fold the left side of the folded napkin almost to the right side and iron.

5. Again fold the left side to the right and iron.
6. Turn the napkin over and repress the other side of the square.

Washing of Coloured Clothing.

1. Set the colour by use of a suitable mordant. The following table may be useful as a guide:—

Mordant.	Colour of Material.	Quantity.
Alum	Pink and red	1 tbsp. to 1 qt. of water.
Vinegar	Blues, lavenders, and dark colours	1 c. to 1 gal. of water.
Salt	Blue and green	2 c. to 1 gal of water.
Sugar of lead	Mixed colours—patterns	1 tbsp. to 1 qt. of water.

To set the colour, soak the garment for several hours in sufficient cold water, to which the mordant is added, to submerge it completely. Rinse it in clear water before washing, as the mordant may cause the soap to curdle.

NOTE.—Sugar of lead is a poison and should be used with care.

2. Wash in warm, soft water, using soap solution. (*See* page 16.) Hot water will start the colour running again.
3. If water is to be softened, use borax or ammonia.
4. Use a soap solution from a mild, white soap. A strong soap will cause the colour to run.
5. Wash quickly. Rinse in cold water.
6. If colour still runs, add a mordant to the rinse-water.
7. Turn wrong side out and starch. If materials are fine, use gum arabic. (*See* page 22.)
8. Hang in the shade to dry and dry as quickly as possible.
9. If colour has a tendency to run, it is advisable to iron with a moderately hot iron before the garment is thoroughly dry.

Washing of Woollens.

Wool is an animal fibre possessing a scaly structure somewhat like a pine-cone or the scales of a fish. The scales on the wool fibre, when moist and warm, stand up more as the pine-cone, and when cold and dry, or cold and moist, lie flat. When improperly handled the scales mat together, causing the garment to shrink.

Conditions to Avoid in Washing Wool.

1. Hot water (melts cells in wool).
2. Rubbing (mats the fibres together).
3. Standing wet for a long time (causes the wool to mat).
4. Too much soap or too strong soap (makes wool hard and yellow).
5. Use of any strong alkali (spoils the colour and partially dissolves the fibre).

General Rules for Washing Woollens.

1. Shake the garment well to remove dust.
2. Use soft, *warm* water.
3. Use a mild soap solution. Never rub soap on wool.
4. Wash as quickly as possible by kneading and squeezing, not rubbing.
5. Wash in a second water of the same temperature.
6. Rinse in clear water of the same temperature.
7. Squeeze but do not wring, as it twists the fibres.

8. Shake the garment well and pull it into shape.
9. Dry fairly quickly—out-of-doors if possible.

Washing Sweaters.

1. Measure the garment carefully before washing.
2. Follow general rules for washing woollens.
3. To dry, pull into the desired shape and size according to measurements, and dry on a flat surface.

Washing of Silks.

Silk is an animal fibre and as such must be carefully treated. Any strong acid or alkali will turn silk yellow and may actually dissolve it.

General Rules for Washing Silks.

1. Wash in warm, soft water, using soap solution or soap-flakes. If necessary, use borax to soften the water.
2. Wash by kneading and squeezing.
3. Rinse twice in clear, warm water.
4. If bluing is used, it should be used sparingly.
5. Silks require very little stiffening. If any is used, a weak solution of gum arabic is desirable.
6. After rinsing, roll in a bath-towel for approximately one hour and iron on the wrong side.
7. Do not use too hot an iron, for silk scorches easily; and too cold an iron will leave brown marks. Raw silks may be ironed when dry with a rather hot iron, on the wrong side.
8. To wash black silk, use a little ammonia in the washing-water and the last rinsing-water, as it prevents it from going a greenish or brownish shade. Dip in very deep-coloured blue water. Iron between two layers of thin muslin.

Washing Silk Stockings.

1. Turn wrong side out.
2. Wash in warm, soapy water.
3. Turn and wash right side.
4. Rinse twice and hang by the toe to dry. When hung by the hem, water lodges in the toes and causes the feet to shrink. Blue water helps to retain the colour in black stockings.

NOTE.—Woollen stockings may be dried on a wooden frame to prevent shrinking.

STAIN-REMOVAL.

Before washing, it is most essential that all stains be removed, for sometimes soap or even hot water will set a stain and make its removal impossible.

Berry-stain.

1. Spread the stained part over a bowl and pour boiling water over it from a height of about 2 feet so as to strike the stain with force.
2. Plunge the stained part up and down in the hot water until the stain is removed.
3. If stain is persistent, use javelle water.

Peach-stain.

Peach-stains are not easy to remove and one should be careful not to wipe hands covered with peach-juice on a good napkin, towel, or apron.

1. Stretch stain over a bowl of hot water and apply javelle water with a medicine-dropper. Do not allow it to remain in contact with the stain more than a minute. If allowed to remain too long in contact with the fibres, javelle water rots even cotton and linen.

2. Apply oxalic-acid solution to neutralize the alkali and rinse thoroughly in hot water. Several applications with immediate neutralization may be necessary for persistent stains.

Tea and Coffee.

(*See* Berry-stain above.)

Blood and Meat-juice.

1. Never put into hot water as that sets the stain. Soak at once in cold or lukewarm water. Rub with soap and wash.

2. A paste of raw starch mixed with cold water will remove these stains on flannel, blankets, and heavy goods. Repeat until the stain disappears.

Egg-stain.

1. Wash in cold water, then warm water and soap.

Cream, Chocolate, Cocoa.

1. Same as egg.

2. If material cannot be washed, use a solvent such as benzene, gasoline, naphtha gas, or carbon-tetrachloride. Place the stained goods over a pad of cloth. Apply the solvent with a clean cloth, preferably the same colour as material stained. Work from the edge of the stain to the centre. Change the underpad frequently.

Grease.

Same as cream (2).

Bluing.

1. Boil the stained material 20 minutes.
2. Add vinegar if a bleach is necessary.

Ink.

1. Moisten with salt and lemon-juice and lay in the bright sunlight. Repeat.

2. Soak fresh stains in sour milk or buttermilk.

3. Potassium permanganate used alternately with oxalic acid will remove obstinate stains. It is a bleach and cannot be used on coloured materials or on silk or wool.

4. Commercial Ink Remover is effective on white cotton and linen materials.

Indelible Pencil.

1. Soak in alcohol and wash with water and soap.

Grass-stains.

1. Wash at once with cold water and soap.
2. For coloured materials sponge with alcohol or ether.

Iron-rust.

1. Use salt, lemon-juice, and sunlight.
2. Salts of lemon is an alternative.

Iodine.

1. Soak or sponge with ammonia.

Mildew.

1. If stain is fresh, wash with cold water and soap.
2. If stain is old, bleach with javelle water. Wash in hot water and place in the sun.

Paint or Varnish.

1. If fresh, use cold water and soap.
2. If dry, sponge with turpentine.
3. Sponge delicate materials with carbon-tetrachloride.

Perspiration.

1. Use warm water, ammonia, and soap.
2. Dry in the sun.

Scorch.

1. If fibre is not injured, wash in soap-suds and hang in the sun.

Water-spots.

Some silks and wools are spotted with water.

1. To remove, dampen the whole garment evenly and press while still damp. Either sponge the material carefully with clean water or shake it in the steam of the kettle until it is damp.

RECIPE FOR STARCH.

1 qt. boiling water.	½ tsp. borax.
1½ tbsp. starch.	½ tsp. fat or paraffin.

Mix the starch and the borax with a little cold water to separate the grains. Pour over the mixture the boiling water, stirring all the time. Add the fat. Boil gently for about 5 minutes, stirring frequently to prevent burning. Use while hot, diluting with hot water to the desired consistency.

RECIPE FOR JAVELLE WATER.

½ lb. washing soda.	¼ lb. chloride of lime.
1 pt. boiling water.	1 qt. cold water.

Dissolve the soda in the boiling water and let it cool. Dissolve the chloride of lime in the cold water. When settled, pour off the clear liquid. Add this to the liquid soda. Bottle, cork well, label, and store in a dark place, as it loses its strength if exposed to air and light.

NOTE.—This is a bleach and must be used only for white cotton or linen. When using, dilute with an equal quantity of water.

OXALIC ACID.

This is a poison, so should be used carefully.

1. Dissolve 2 oz. (about 4 tsp.) oxalic acid crystals in 1 pt. of lukewarm water.
2. Keep tightly corked and label "Poison."

GUM ARABIC.

This is used for stiffening fine materials, as voiles, organdies, and silks.

¼ lb. gum arabic. 1 qt. boiling water.

1. Pour the boiling water over the gum arabic and let stand in a warm place until dissolved.
2. Strain through a cheese-cloth and put in a bottle.
3. Use from 1 to 3 tbsp. to 1 c. of water.

NOTE.—When buying gum arabic insist on white crystals, as the yellowed ones stain the clothes yellow. Gum water may be bottled and kept for future use.

QUESTIONS.

1. Why should a really hot iron not be used when pressing silk?
2. Do you press your garments on the right or wrong side? Why?
3. How can you freshen up a cotton or a linen dress without laundering it?
4. Why should dry-cleaning at home be done out-of-doors?
5. What care must be taken when clothes are hung on the line?
6. Why is it much better to remove spots immediately from woollen garments?
7. How may sugar-spots be removed from clothing? Grease-spots? Coffee-stains? Fruit-stains? Ink-stains?
8. Why do we sprinkle clothes?
9. What is the purpose of starching clothes? Give two reasons.
10. Give a recipe for making starch, and method of mixing.
11. Why should clothes be dried in the wind and sun whenever possible?
12. Why should coloured clothes not be hung in the sun?
13. What "nature's purifiers" are used in laundry-work?
14. What is the chief difference between our method and the very earliest methods of laundry?
15. Give the steps you would follow in doing the family washing.
16. What mordants assist in setting the colour in materials?
17. How can we avoid shrinking woollens when washing them?
18. How would you remove fruit-stains from table-napkins?
19. What causes wool to become hard and yellow in the washing?
20. How should we wash silks? Silk stockings?
21. How do you make javelle water?

MARKETING.

The good housekeeper does her marketing with intelligent care, thereby saving money, yet giving her family adequate meals. A definite amount of money should be set aside each month to be used for food. The amount to be spent for food varies with the size of the income and the standard of living. The percentage will be from 25 to 50 per cent. of total salary. The smaller the salary, the higher the percentage spent for food. Every dollar spent for food should be used in this way:—

One-fifth, more or less, for vegetables and fruit.

One-fifth, more or less, for milk and cheese.

One-fifth, more or less, for meats, fish, eggs, etc.

One-fifth, more or less, for bread and cereals.

One-fifth, more or less, for sugar, fat, tea, coffee, cocoa, chocolate, flavourings, etc.

In order to know how much money is being spent for food the housekeeper should keep a food account. Rule columns and put down items each day. At the end of the month add up and see if one-fifth of the money has been spent on each division. Then rule a second sheet and put on this the totals for each month.

(For suitable chart for keeping food accounts, *see* "Elementary Home Economics," by Matthews, pages 81 and 82.)

Rules for Marketing.

1. Patronize only reliable merchants who give first-class service.
2. Markets should be sanitary and clerks should be neat and clean in appearance and in their habits of handling foods.
3. It is most advisable to go to market and make one's own selection instead of ordering by telephone.
4. Order-lists should be made out at home before going to the market. Daily marketing should not be necessary. By making out menus two or three days in advance, supplies may be ordered for these meals on one marketing trip and so save the time of the home-maker and extra deliveries for the merchant. A marketing-list should be kept in the kitchen on which should be noted the items that are getting low.
5. Be courteous and considerate in your demands for service. It shows a lack of planning to ask for more than one delivery a day.
6. Check the list with delivered groceries to see that the order is filled correctly. Check items as to cost.
7. Marketing should be done as early in the day as possible, so that supplies may be selected when fresh and while there is the best selection, and also to allow time for early delivery.
8. Staples such as flour and sugar, etc., should be bought in quantity if storage-space is available. Perishable foods should be bought in small quantities every day or two.
9. Buy foods that are in season when the prices are low. Foods out of season are always high on account of transportation and hothouse conditions. High prices do not signify quality.
10. The price of goods should always be known before buying, and when the price is too high the home-maker should be able to substitute another food of equal food value for less money.
11. Ask for food by weight or measure, not by the quarter's worth or the dime's worth.
12. Canned foods should be ordered by the size number on the can and by the special brand desired. Usually No. 2 and No. 3 are used in the average home. It is advisable to try several brands until one has determined the best value.
13. Canned foods should be bought by the case when a quantity is to be used.
14. If cans have damaged or faded labels or are bulged in any way, the product is likely to be inferior and should be avoided.
15. Canned vegetables improve in flavour if the can is opened and the contents are emptied and left exposed to the air for some time before heating.
16. Packaged foods command higher prices than foods bought in bulk. One must determine if the extra cost is desirable.

QUESTIONS.

1. How much should your family spend on food and clothing?
2. If you were hungry and had only 10 cents, would you buy a loaf of bread or candy? Why?
3. What foods should be ordered in family-sized quantities when storage-space is available?
4. What inexpensive conveniences might you have in your kitchen to save time and labour?
5. List the countries supplying us with food.
6. List the foods that you had for three meals yesterday. Where were they raised? Do they come from the same place the year around, or are they shipped from different places at different seasons?
7. How many of these foods had been stored? Could you have done this storing in your own home?
8. What is the cost per acre of farm land in your locality? How does this affect the price of crops suitable for your district?
9. What foods are ordinarily shipped into your city by the car-load?
10. Which foods are most commonly kept in cold storage?
11. How many grades of eggs does your grocer carry?
12. How are fish shipped to your city? Are they frozen or packed in ice?
13. What is the retail price of canned beans, tomatoes, peas, peaches, plums, raspberries, laundry-soap and kerosene?
14. Name several articles of food served on your own table which could be dispensed with without loss to the body.
15. How will paying bills promptly help to keep down the price of food?
16. Should we ask the price before or after buying? Why?
17. In buying food and supplies for the home, should we buy because they are cheap or because we need them?
18. Is it advisable to check the delivered groceries to see that the order is filled? Why?
19. At what time of day is it best to do your marketing? Why?
20. Name two things that influence your choice of market.
21. Should you ask for any more than one delivery per day? Why?
22. Which is cheaper buying, packaged foods or foods in bulk? Why?
23. Name two brands of B.C. canned fruit, B.C. canned vegetables, B.C. canned soup, B.C. canned milk.

UNIT II. NUTRITION.

RULES FOR HEALTHY, HAPPY B.C. SCHOOL-CHILDREN.

1. Eat food slowly and at regular intervals.
2. Eat cooked cereal with milk for breakfast frequently.
3. Drink 3 to 4 glasses of milk daily.
4. Drink 4 to 6 glasses of water daily.
5. Drink no tea or coffee until 20 years of age.
6. Eat eggs three or four times a week, and meat not more than once a day.
7. Eat plenty of fruit.
8. Eat raw vegetables at least twice a week.
9. Eat daily a vegetable in addition to potatoes.
10. Eat milk desserts rather than pastry.
11. Eat very little candy. (Only after meals.)
12. Aid the digestion of food by doing the following:—
    (1.) Exercising two hours each day.
    (2.) Bathing at least twice a week.
    (3.) Keeping windows open at night.
    (4.) Sleeping as many hours as the following table indicates:—

Age.	*Hours of Sleep.*
5– 6	13
6– 8	12
8–10	11½
10–12	11
12–14	10½
14–16	10
16–18	9½

Week ending.....

FOOD HABITS SCORE-CARD.

Week ending.....

Sun.	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.	Perfect Score.	Daily Credits.	Sun.	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.
							30	*Milk.* 1 cup . . 5 3 cups . . . . 20 2 cups . . . . 10 1 qt. 30							
							20	*Vegetables.* 1 besides potato . . . . . 10 2 besides potato 20							
								Mark days when you eat greens.							
							15	*Fruit (Fresh or Stewed or Canned).* Once 10 Twice . 15							
							10	Mark days when you eat oranges or tomatoes.							
							10	*Cereals.* Whole grain, bread, or cereal . . . . . 10 Ready-to-eat cereal, 5; cooked 10							
							10	*Water.* 3 glasses . . . . . 5 4–6 glasses 10							
							95	Total credits							
								Deduct. Going without breakfast . . . . . 15 Drinking tea or coffee . . . . . 10 Eating candy between meals 5							
							995	Total daily score							
							665	Add daily score to get weekly credit to add to weekly score							
							20	If greens are eaten twice weekly							
							15	If oranges or tomatoes are eaten twice weekly							
							700	Total weekly score							
							7	Divide by 7 to get average daily score							

Prepared by Junior Club Dept.,
Conn. Agricultural College.

If forwarded, sign here.

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RIGHT HEIGHT AND WEIGHT FOR GIRLS OVER FIVE YEARS OF AGE.

(TABLE PREPARED BY THOS. D. WOOD, M.D., AND BIRD T. BALDWIN, PH.D.)

Height, Inches.	5 Years.	6 Years.	7 Years.	8 Years.	9 Years.	10 Years.	11 Years.	12 Years.	13 Years.	14 Years.	15 Years.	16 Years.	17 Years.	18 Years.
38	33	33												
39	34	34												
40	36	36	36											
41	37	37	37											
42	39	39	39											
43	41	41	41	41										
44	42	42	42	42										
45	45	45	45	45	45									
46	47	47	47	48	48									
47	49	50	50	50	50	50								
48		52	52	52	52	53	53							
49		54	54	55	55	56	56							
50		56	56	57	58	59	61	62						
51			59	60	61	61	63	65						
52			63	64	64	64	65	67						
53			66	67	67	68	68	69	71					
54				69	70	70	71	71	73					
55				72	74	74	74	75	77	78				
56					76	78	78	79	81	83				
57					80	82	82	82	84	88	92			
58						84	86	86	88	93	96	101		
59						87	90	90	92	96	100	103	104	
60						91	95	95	97	101	105	108	109	111
61							99	100	101	105	108	112	113	116
62							104	105	106	109	113	115	117	118
63								110	110	112	116	117	119	120
64								114	115	117	119	120	122	123
65								118	120	121	122	123	125	126
66									124	124	125	128	129	130
67									128	130	131	133	133	135
68									131	133	135	136	138	138
69										135	137	138	140	142
70										136	138	140	142	144
71										138	140	142	144	145

(Courtesy of American Child Health Association.)

To find weight, remove outdoor clothing and shoes.

To find height, stand in erect position with heels and shoulders against the wall. Take height by placing a square wooden box (a chalk-box will serve) on top of the head and one side against the wall.

To find age, count from the nearest birthday.

RIGHT HEIGHT AND WEIGHT FOR BOYS OVER FIVE YEARS OF AGE.

(TABLE PREPARED BY THOS. D. WOOD, M.D., AND BIRD T. BALDWIN, PH.D.)

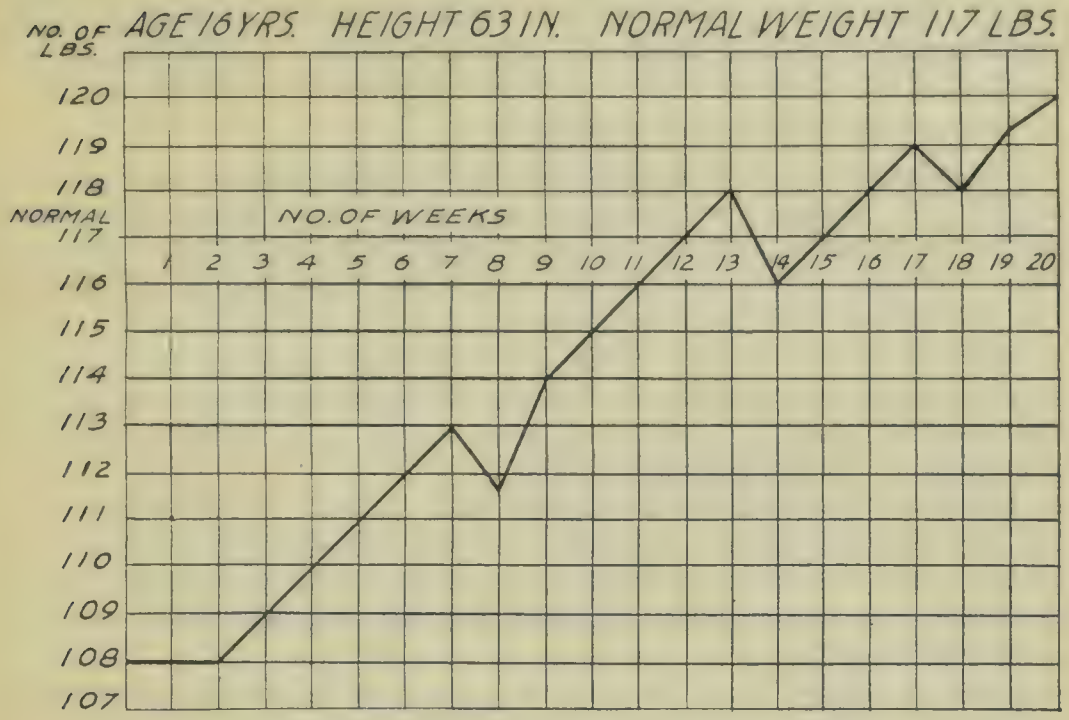
Height, Inches.	5 Years.	6 Years.	7 Years.	8 Years.	9 Years.	10 Years.	11 Years.	12 Years.	13 Years.	14 Years.	15 Years.	16 Years.	17 Years.	18 Years.	19 Years.
38	34	34													
39	35	35													
40	36	36													
41	38	38	38												
42	39	39	39	39											
43	41	41	41	41											
44	44	44	44	44											
45	46	46	46	46	46										
46	47	48	48	48	48										
47	49	50	50	50	50	50									
48		52	53	53	53	53									
49		55	55	55	55	55	55								
50		57	58	58	58	58	58	58							
51			61	61	61	61	61	61							
52			63	64	64	64	64	64	64						
53			66	67	67	67	67	68	68						
54				70	70	70	70	71	71	72					
55				72	72	73	73	74	74	74					
56				75	76	77	77	77	78	78	80				
57					79	80	81	81	82	83	83				
58					83	84	84	85	85	86	87				
59						87	88	89	89	90	90	90			
60						91	92	92	93	94	95	96			
61							95	96	97	99	100	103	106		
62							100	101	102	103	104	107	111	116	
63							105	106	107	108	110	113	118	123	127
64								109	111	113	115	117	121	126	130
65								114	117	118	120	122	127	131	134
66									119	122	125	128	132	136	139
67									124	128	130	134	136	139	142
68										134	134	137	141	143	147
69										137	139	143	146	149	152
70										143	144	145	148	151	155
71										148	150	151	152	154	159
72											153	155	156	158	163
73											157	160	162	164	167
74											160	164	168	170	171

(Courtesy of American Child Health Association.)

See directions accompanying Table for Girls on preceding page. In taking the weight of boys, the coat should be removed also.

SAMPLE WEIGHT CHART.

Name .....



CLASSIFICATION AND USES OF FOODS.

The workings of the human body may be compared to an automobile. The auto needs gasoline or fuel, so the body needs fuel foods such as carbohydrates (sugar and starches) and fats. The gasoline makes the car go and the sugars and starches furnish the body with the needed energy for work and play. The automobile needs oil to lubricate its machinery, so the body needs regulating foods such as mineral salts, water, and cellulose to regulate its processes. Sometimes the auto has to be repaired and new parts have to be bought, so the body needs protein foods to repair its tissues and to build new tissue. The automobile engine needs the ignition-spark to start it, so also the body needs vitamin foods for growth and normal development.

The Uses of Food.

1. To build new tissues (muscle-tissue, bone-tissue, and nerve-tissue) and to repair those tissues that are worn out.
2. To furnish the body with energy for work and play. (Heat is a form of energy.)
3. To regulate the body processes; i.e., to keep the body in good working-order.
4. To promote the growth and to keep the body healthy.

The Foodstuffs and What They Do in the Body.

NOTE TO THE TEACHER.—It is advisable to teach the names of the various foodstuffs by means of experiments.

1. *Proteins* build and repair the tissues, promote growth, and give heat *or* energy when the supply of carbohydrates and fat is insufficient. Protein is

made up of many building-stones, some of which are more valuable than others. A protein of the best quality, such as the protein in milk, eggs, cheese, fish, meat, and nuts, will maintain life and promote normal growth. When important building-stones are missing, we have a protein of inferior quality, as in peas, beans, and cereals. When the latter are used as a source of protein they should be supplemented with milk or some other protein of good quality.

2. *Fats* give heat or energy (fuel foods).

3. *Carbohydrates.*—(*a.*) *Starch and Sugar* give heat *or energy* (Fuel Foods). (*b.*) *Cellulose or Roughage* acts as a broom or scrubbing-brush, keeping the digestive tract clean, and thus helps to regulate the body processes. Cellulose is not digested in the body, but helps to prevent constipation. Foods that have much cellulose are called *Laxative Foods.*

4. *Mineral Matter or Ash* builds the body and regulates the body processes. Calcium and phosphorus help to make good bones and teeth. Iron makes good red blood. A small amount of copper is an aid to iron in forming good blood. Iodine prevents goitre.

5. *Water.*—Two-thirds of the human body is water. The muscles, the brain, the liver, the kidneys, and even the bones contain a lot of water. It is most important in regulating the body processes. (*See* page 31.)

6. Vitamins promote growth and keep the body healthy. They are called " protective foods."

Vitamin A helps to make us grow, helps to keep good teeth, and helps to prevent certain diseases, especially those of the eyes, nose, and throat.

Vitamin B (B_1) gives us an appetite, helps to make us grow, and protects us from a disease of the nerves called beri-beri.

Vitamin C helps to prevent decay of teeth and protects us against " scurvy," a disease affecting the blood-vessels, skin, gums, and teeth.

Vitamin D is very closely associated with Vitamin A. It protects us against rickets—a disease which is common among children, affecting the bones and all parts of the body.

Vitamin D is important in the development of good teeth in children and in maintaining soundness of teeth in later years.

Vitamin E helps in reproduction.

Vitamin G (B_2) is essential for growth and is necessary for maintaining good health. It is an important factor in preventing " pellagra," a disease which first shows itself as an eruption of the skin.

Base-forming and Acid-forming Foods.

Besides grouping our foods under the headings of the six foodstuffs, we classify them as base-forming and acid-forming. These terms do not refer to the taste of foods, but rather to the use of foods in the body. Foods are acid-forming or base-forming (sometimes called alkali-forming) according to the ash that is left after they are digested and utilized by the body. The body needs both types of foods so that one counteracts the other, preserving a neutrality which is essential for health.

Base-forming foods are milk, milk products, fruits and vegetables, *except* prunes, plums, cranberries, and corn.

Acid-forming foods are meat, fish, eggs, grains, prunes, plums, cranberries, and corn.

References.

Winchell: "Food Facts for Every Day" (Lippincott).
Kennedy: "Food Study Manual" (Manual Arts Press).
Kinyon & Hopkins: "Junior Food & Clothing" (Benj. Sanborn & Co., Chicago).
Rose: "Teaching Nutrition to Boys and Girls" (Macmillan).

FOOD VALUE CHART.

Foods which Furnish Fuel for Heat or Energy.		Foods that Build Muscle.	Laxative Foods.		Foods Rich in Mineral Matter or Ash.			
					Foods that Build Good Bones and Teeth.		Foods that Make Red Blood.	Foods that Prevent Goitre.
Carbohydrates.	Fats.	Protein Foods.	Water.	Food Rich in Cellulose or Roughage.	Calcium.	Phosphorous.	Iron.	Iodine.
Starches— Bread Crackers Macaroni Cereals Tapioca Sago Vegetables (roots, tubers, and seeds), as— Potatoes Peas and beans Parsnips, etc. Sugars— Milk Sugar Candy Molasses Honey Jams and jellies Syrup	Milk Butter Cream Cheese Lard Pork Bacon Mazola oil Wesson oil Olive-oil Crisco Peanut butter Nuts	Proteins of good quality— Milk Cheese Eggs Meat Fish Fowl Nuts Proteins of inferior quality— Beans (dried) Peas (dried) Lentils Gelatine	Water 4–6 glasses daily. (*See* page 33, "How Much Water Do We Need?") Milk Most foods contain water	All green vegetables All starchy vegetables Fresh and dried fruits (the skin should be eaten) Whole cereals Graham and whole-wheat bread	Milk Cheese Buttermilk Cauliflower Oranges Spinach Celery Carrots String beans Dried beans and peas Cabbage Dried figs Onions Eggs Ice-cream Molasses	Milk Cheese Eggs Lean beef Whole-wheat bread Vegetables, particularly— Spinach Cauliflower Kidney beans Brussels sprouts Lentils Onions Soy-beans	Lean beef Oysters Spinach Liver Bran Graham bread Egg-yolk Strawberries Potatoes Cabbage Oatmeal Green peas Prunes Dates Raisins Nuts	Salt-water fish Vegetables grown near the sea-shore Iodized salt Seaweed

FOOD VALUE CHART—*Continued.*

FOODS WHICH PREVENT DISEASE AND PROMOTE GROWTH.

Vitamin A.	Vitamin B (B_1).	Vitamin C.	Vitamin D (Stored Sunshine).	Vitamin E.	Vitamin G (B_2).
Whole milk	Milk	Fresh fruit, especially citrus fruits, as oranges and lemons	Whole milk	Wheat grains	Milk
Butter	Cheese		Egg-yolk	Green lettuce	Eggs
Egg-yolk	Root and leafy vegetables		Green leafy vegetables	Meat	Liver
Green, leafy vegetables	Whole grains		Cod-liver oil		Lean meats
Carrots	Legumes		Sunlight		Leafy vegetables
Sweet potatoes	Nuts	Tomatoes	Irradiated foods		Root vegetables
Liver	Yeast	Raw, leafy, and root vegetables	Haliver oil		
Kidney					
Sweetbreads					
Cod-liver oil					

How Much Water Do We Need?

Someone has said, "Use water externally, internally, and eternally." The amount of water that we drink makes a great difference in the way we feel and act. It has many uses in the body, as follows:—

1. It quenches the thirst.

2. It helps in carrying off the wastes in the body, thus helping to prevent constipation.

3. It assists in cooling the body during warm weather by evaporating in the form of perspiration.

4. It helps to soften the food, thus making it more easily digested, and it helps to carry the digested food into the blood.

5. It forms part of the liquid part of the blood.

6. It forms part of all body-tissues. Two-thirds of the body-weight is water.

It is advisable to drink at least four glasses of water a day, and preferably six. In order to make sure that we drink this amount of water it is well to have certain times for water-drinking. A good practice is to drink a glass when you first get up and when you go to bed. People used to suppose that water should not be drunk at meal-time. Now, drinking water during meals is advised, provided food is not rinsed down with water. *Do not drink water or any other beverage when there is food in your mouth.*

FOOD REQUIREMENT.

The body is sometimes called "the human working-machine" and in its workings it resembles the automobile or the engine. The automobile or the engine requires a given amount of gasoline or coal to run a certain number of miles. The driver must know his engine and must also know what fuel will give the best results and just how much fuel is needed. Just as fuel in the engine produces the power to travel, so the food eaten produces heat which supplies us with energy for our work. Scientists have found a way of measuring the amount of heat or energy that the body requires in order to do its work, and they have given us their results. They have also found out how much heat given amounts of food will produce when burned. "How much heat does the body need?" and "How much food will supply this heat?" are two questions that must be considered.

If heat is to be measured there must be a unit of measurement. When we measure gasoline we use a gallon measure: when we measure milk we use a quart measure; when we measure cloth we use a yardstick; so when we measure heat derived from food we use a Calorie. You know what a yardstick is and have seen a quart measure, but many of you may not know what is meant by a Calorie. A Calorie is the amount of heat necessary to raise a pound (approximately 1 pt.) of water 4° F. The Calorie, then, is the unit used to measure heat, and we must think in terms of Calories when we think of food values and the food needs of the body.

Experts can tell us just how many Calories we need daily. Men, women, girls, and boys need different amounts, depending upon their size, shape, age, climate, and the amount of work they do.

FACTORS AFFECTING THE FOOD REQUIREMENT OF THE INDIVIDUAL.

1. Age.

The growing child needs food, not only to give energy to the body and to rebuild tissue, but also to build new tissue. An active child over 10 years of age will require more food than an adult who sits quietly at his work. An aged person needs less food to build new tissue, and since an old person's strength is somewhat lessened, he needs less food to carry on the decreased activities of the body.

2. Occupation.

The activity of our bodies makes them require different quantities of food at different times. When one is lying perfectly quiet his body uses energy only for the action of the organs of the body; for example, the heart, lungs, stomach, liver, etc. When one is doing light work at a desk or walking he needs energy for all the organs of his body, and, in addition, energy for the light work he is doing. Running, ironing, sweeping, and all vigorous exercise necessitates still more energy, and for that reason a very active person uses more Calories.

3. Growth.

It is very natural that the body needs extra food for growth. If the energy in the food eaten by a child were all used in running or playing, the child would never grow. He must have food enough to provide for both his play and his growth.

The table "Food Allowances for Children" will tell you approximately how many Calories you need daily.

4. Size.

In general, the quantity of food required increases with the size of the individual, but not at the same rate as the body-weight increases. Two persons may be equal in weight, yet very different in height and shape. A tall, slender person requires more food than a short, fleshy person of the same weight.

5. Season and Clothing.

Any excess heat in the body is given off chiefly through the skin by evaporation of perspiration and through the lungs in moisture exhaled. In the summer we are seldom concerned about the conserving of any of this excess

heat, but in winter it is a necessity. Nature helps to conserve the heat on very cold days by causing the blood-vessels near the surface to contract under the influence of cold, thus preventing the warm blood from coming to the surface where it would give up its heat to the outside air. This provision of nature is not sufficient protection in cold weather, and if we are wise we wear warm clothing to keep the outside air from absorbing heat; but if the clothing is not warm enough to prevent heat from escaping the surface is chilled, the nerves in the skin telegraph to the muscles that more heat is needed, and the muscles begin to produce heat. If the work which the muscles do for the sole purpose of producing heat is vigorous enough to be apparent, it is called shivering, but, however slight it may be, it makes the body do extra work, for which extra food is needed. This energy has been produced either from food eaten or from a reserve source of energy in the form of fat in the tissues, or from the tissues themselves.

A reserve supply will protect the tissues so long as the reserve lasts. If there is no reserve, then the tissues will be burned to produce the energy and this is expensive as well as dangerous. If not replaced, there is a loss of weight and the way is opened for disease to gain a foothold. The loss should be made good by eating more food. Usually a healthy person has a better appetite, and a desire for more food in cold weather.

FOOD ALLOWANCES FOR CHILDREN.*

Age.	Calories per Day.	
	Boys.	Girls.
Under 2	900–1,200	900–1,200
2– 3	1,000–1,300	980–1,280
3– 4	1,100–1,400	1,060–1,360
4– 5	1,200–1,500	1,140–1,440
5– 6	1,300–1,600	1,220–1,520
6– 7	1,400–1,700	1,300–1,600
7– 8	1,500–1,800	1,380–1,680
8– 9	1,600–1,900	1,460–1,760
9–10	1,700–2,000	1,550–1,850
10–11	1,900–2,200	1,650–1,950
11–12	2,100–2,400	1,750–2,050
12–13	2,300–2,700	1,850–2,150
13–14	2,500–2,900	1,950–2,250
14–15	2,600–3,100	2,050–2,350
15–16	2,700–3,300	2,150–2,450
16–17	2,700–3,400	2,250–2,550

* Quoted from "Food Allowances for Healthy Children" by courtesy of The New York Association for Improving the Conditions of the Poor.

A GOOD DISTRIBUTION OF CALORIES AT A MODERATE COST.

	Per Cent.
1. Foods from cereal grains (including bread, crackers, macaroni, rice, as well as all breakfast foods	30
2. Milk	13
3. Vegetables and fruits of at least three kinds	15
4. Fats and oils (including butter, Crisco, etc.)	17

	Per Cent.
5. Sugar (including jams and jellies)	10
6. Eggs, cheese, meat, and fish	15
Total	100

TABLE OF APPROXIMATE 100-CALORIE PORTIONS.

(For the use of those who wish to estimate roughly the number of Calories eaten daily.)

	Size of 100-Calorie Portion (using ½-pint Cups and Level Measures).
Beverages.	
Buttermilk (*see* Dairy Products).	
Cocoa (half milk and half water)	⅗ of a cup.
Cream (*see* Dairy Products).	
Grape-juice (*see* Fruits).	
Milk (*see* Dairy Products).	
Bread and Crackers.	
BREAD.	
Boston brown	¾ in. slice 3 in. diam.
Graham	2 slices ½ in. by 3 in. by 3½ in.
White	2 slices ½ in. by 3 in. by 3½ in.
Whole wheat	1 slice ½ in. by 3 in. by 3¾ in.
CRACKERS.	
Graham	2 crackers.
Saltines	6 crackers.
Soda	4 crackers.
Croutons (toasted)	27 croutons, ½-in. cubes.
Rolls, French	1 roll.
Cake and Cookies.	
Doughnuts	½ doughnut.
Ladyfingers	2–4 fingers.
Macaroons	2 macaroons.
Candies, Confections, and Sugars.	
Cherries, candied	10 medium cherries.
Chocolate, milk, sweetened	Piece 2¼ in. by 1 in. by ⅛ in.
Corn syrup	1¾ tbsp.
Honey	1 tbsp.
Maple syrup	1½ tbsp.
Sugar, white granulated	2 tbsp. (scant).
White, loaf	3½ lumps (full size), 4 pieces 1⅛ in. by ¾ in. by ⅜ in.
Brown	3 tbsp.
Cereals.	
Bran	½ cup (scant).
Corn-meal, cooked	⅔ cup.
Corn-meal, uncooked	3 tbsp.
Corn-flakes	1¼ cups.

Cereals—*Continued.*	Size of 100-Calorie Portion (using ½-pint Cups and Level Measures).
Cream of wheat, cooked	¾ cup.
Cream of wheat, uncooked	3 tbsp. (scant).
Flour, wheat, unsifted	3 tbsp.
Flour, wheat, sifted	3⅛ tbsp.
Flour, Graham	3 tbsp.
Grape-nuts	3 tbsp.
Shredded wheat	1 biscuit.
Macaroni	¾ cup.
Pop-corn, popped	1½ cups.
Puffed rice	1⅔ cups.
Puffed wheat	2 cups.
Rice, steamed	¾ cup.
Rice, uncooked	2 tbsp.
Rolled oats, cooked	¾ cup.
Rolled oats, uncooked	⅓ cup.
Tapioca, pearl, uncooked	2 tbsp.
Dairy Products and Fats.	
Butter	1 tbsp. (scant).
Buttermilk	1⅛ cups.
Cheese, American pale	1⅛ in. cube.
Full, cream	2 tbsp.
Cream, thin (18 per cent. fat)	¼ cup.
Thick (40 per cent. fat)	1⅔ tbsp.
Whipped	2⅝ tbsp.
Milk, skim	1⅛ cups.
Whole	⅝ cup.
Olive-oil	1 tbsp.
Eggs and Cheese Dishes.	
Eggs, raw (in shell)	1⅓ eggs.
Fruits.	
Apple, baked, with 2 tbsp. sugar	½ large apple.
Fresh	1 large.
Apple sauce	⅜ cup.
Apricots, canned	3 large halves and 2 tbsp. juice.
Dried, stewed	¼ cup.
Bananas	1 medium.
Blackberries, fresh	½ cup (50 berries).
Cantaloupe	1 melon 4½ in. diam.
Cherries, stoned	1 cup (20 cherries).
Dates, unstoned	3–4 dates.
Figs, dried	2 medium.
Grapes, Concord	1 large bunch.
Grape-juice	½ cup.
Grapes, Malaga	20 grapes.
Huckleberries, fresh	1 cup.
Lemons	3 large.
Olives, green	6–8 medium.

Fruits—*Continued.*	Size of 100-Calorie Portion (using ½-pint Cups and Level Measures).
Olives, ripe	6–8 olives.
Oranges	1 large.
Peaches, fresh	3 medium.
Canned	2 large halves and 3 tbsp. juice.
Pears, canned	3 halves and 3 tbsp. juice.
Fresh	2 medium.
Pineapple, canned	1 slice and 3 tbsp. juice or ¼ cup shredded.
Fresh	2 slices 1 in. thick.
Plums, fresh	3 plums 1½ in. diameter.
Prunes	4 medium.
Stewed	2 prunes and 2 tbsp. juice.
Prune-pulp	2 tbsp.
Raisins	¼ cup or 2 tbsp. seedless.
Raspberries	1⅛ cups.
Rhubarb, fresh	4 cups of 1 in. pieces.
Stewed	½ cup.
Strawberries, fresh	1⅓ cups.
Meats and Fish (Cooked).	
BEEF.	
Dried	4 thin slices 4 in. by 5 in.
Hamburg steak, broiled	Cake 2½ in. diam. ⅞ in. thick.
Loaf	Slice 4 in. by 6 in. by ⅛ in.
Rib, lean, roasted	Slice 5 in. by 2½ in. by ¼ in.
Round steak, lean, pan-broiled	Slice 2¾ in. by 1½ in. by ¾ in.
Sirloin steak, lean, broiled, medium fat	Slice 1¾ in. by 1½ in. by ¾ in.
Frankfurters	1 sausage.
Lamb chops, broiled	1 chop (piece 2 in. by 1½ in. by ¾ in.).
Leg, roast	Slice 3½ in. by 4½ in. by ⅛ in.
Pork, bacon	4–5 small slices.
Ham, boiled	Slice 4¾ in. by 4 in. by ⅛ in.
Sausage	1⅔ sausages 3 in. long, ¾ in. diam. after cooking.
Bacon	4–5 small pieces.
Veal, leg, roast	Slice 2 in. by 2¾ in. by ⅛ in.
POULTRY.	
Chicken, broiled (lean)	3 slices 3½ in. by 2½ in. by ¼ in.
Turkey, roast (dark)	Slice 4 in. by 2½ in. by ¼ in.
Turkey, roast (light)	Slice 4 in. by 2¼ in. by ¼ in.
FISH.	
Halibut steak, broiled	Piece 3 in. by 1⅜ in. by 1 in.
Salmon, canned	⅜ cup (scant).
Sardines, canned	4 sardines 3 in. long.
SHELL-FISH (UNCOOKED).	
Clams	12 clams or ⅔ cup.
Crab or lobster, canned	¾ cup.

Meats and Fish (Cooked)—*Continued.*

SHELL-FISH (UNCOOKED)—*Continued.*	Size of 100-Calorie Portion (using ½-pint Cups and Level Measures).
Oysters	⅔ cup solid or 6–15 oysters.
Scallops	¾ cup.
Shrimps	⅔ cup.

Nuts (Edible Portion).

Almonds	12–15 nuts.
Brazil nuts	2 nuts.
Butternuts	4–5 nuts.
Cocoanut, prepared	⅛ cup.
Filberts	8–10 nuts.
Peanuts	20 kernels.
Peanut butter	1 tbsp. (scant).
Pecans	12 meats.
Walnuts, English	8–16 nuts, 1¼ tbsp. (chopped).

Vegetables.

Asparagus, fresh	20 large stalks 8 in. long.
Beans, baked, canned	⅓ cup.
Lima, fresh	½ cup.
String	2⅓ cups of 1-in. pieces.
Beets	4 beets 2 in. diam. (1⅓ cups sliced).
Cabbage, shredded	3¾ cups.
Carrots	1⅔ cups of ½-in. cubes.
Cauliflower	1 very small head.
Celery	4 cups of ¼-in. pieces.
Corn, fresh	⅖ cup.
On cob	2 ears 6 in. long.
Lettuce	2 large heads.
Mushrooms, fresh	20–25 mushrooms 1½ in. diam.
Onions, raw	3–4 medium.
Parsnips, stewed	7 pieces 3½ in. by 1½ in. by ⅓ in., or 1 parsnip 7 in. long and 2 in. diam. at top.
Peas, canned, with liquor	⅞ cup (drained).
Peas, fresh (shelled)	¾ cup.
Potatoes, sweet, baked	½ medium.
Sweet, glazed	½ small.
White, baked	1 medium.
White, boiled	1 medium.
White, mashed	½ cup (scant).
Radishes	3 doz. red button.
Spinach, boiled, chopped	2½ cups.
Turnip	2 cups of ½-in. cubes.
Tomatoes, canned	2 cups.
Fresh	2–3 medium.
Tomato-juice	2 cups (scant).

For soups, puddings, cakes, etc., not found in this list *see* "Foundations of Nutrition," by Mary Swartz Rose, 1933, from which this list was selected. The book is copyrighted by the Macmillan Company and this list is printed by permission.

QUESTIONS.

Classification and Uses of Food.

1. Name three reasons why we need food.
2. Name the six foodstuffs.
3. Of what value is each foodstuff to the body?
4. What do you mean by "protective foods"?
5. Why are children advised to wear sun suits during the holiday season?
6. Babies are frequently given cod-liver oil. Of what value is it?
7. Why is orange-juice given to babies? Name a cheaper substitute.
8. Name four foods that contain protein of a good quality.
9. Name three foods that contain protein of poor quality.
10. Name six carbohydrate foods.
11. What four minerals are likely to be lacking in our diet?
12. Why do we need cellulose? Name three classes of foods that are rich in cellulose.
13. Name three reasons why it is advisable to eat a liberal supply of fresh fruit and green vegetables.
14. What are the fuel foods? Of what value are they to the body?
15. Why do we need a supply of iodine? Of iron? Of calcium? Of phosphorus?
16. What effect does an alkali have on litmus-paper? An acid?
17. What classes of foods give an acid ash in the body? An alkaline ash?
18. Name three reasons why we need to drink plenty of water.
19. Is it advisable to drink water at meal-times? Why? What precautions should be observed?

Food Requirement.

1. What do you mean by a Calorie? How many should you have each day?
2. Can you get any Calories from minerals and vitamins?
3. Why should a girl eat sufficient breakfast before starting for school?
4. What effect do fresh air and exercise have upon your appetite?
5. Why should a healthy, active girl eat good wholesome food? Write a list of foods which you think are especially good for her and tell why you think so.
6. Why is an outdoor worker more able to use fried food than an office-man?
7. If a girl is 12 years old and as tall as her mother, why does she need more food than her mother even if she is no more active?
8. What happens when one habitually eats too much food?
9. Explain why a very expensive meal may not contain the right food to meet the body needs.
10. Why should every one have a knowledge of food values?
11. Why should every person understand his or her own food requirements?
12. If dinner is served in the evening, should it be a light or substantial meal? Give reasons for having dinner at noon.
13. Name ten foods which would give you adequate vitamins.
14. Why does your body use food when you are asleep?
15. What is usually wrong with the combination lunch served in the average restaurant or café?

16. What foods should be eaten if one is troubled with constipation?
17. Why are regular food habits important?
18. What foods must you have daily in order to obtain the three minerals most required by the body?
19. Give the 100-calorie portions for the following:—

Bread, white.	Cheese.
Bread, brown.	Sugar, white.
Rolled oats, dry.	Apples.
Rolled oats, cooked.	Oranges.
Cream of wheat, dry.	Dates.
Cream of wheat, cooked.	Prunes.
Shredded wheat.	Strawberries.
Cornflakes.	Lettuce.
Butter.	Spinach.
Cream.	Onions.
Eggs.	Potatoes.

UNIT III. MEAL-PLANNING.

In the planning of the meals it is necessary to take into account many things besides the dishes that are to be served. The kinds of food, the cost, the climate, and the amount of nourishment contained in each dish must be carefully considered, together with the number, age, sex, and occupation of those for whom the food is prepared. A housewife must plan how to make the food most wholesome, how to avoid waste, and how to save time, energy, and fuel in preparing it for use.

Suggestions to Aid in Planning Meals.

1. Include some of each foodstuff in each meal or in each day's meals. Use special care to include the protective foods; serve whole milk, cream, or butter in every meal if possible, and some leafy vegetable, fruit and eggs, at least two or three times a week.

2. Do not serve too much of any one foodstuff in the same meal. Rice and potatoes furnish too much carbohydrate; roast pork and mince pie, too much fat.

3. Do not serve the same food in different forms at the same meal, as tomato soup and tomato salad.

4. Serve cream soups as a main dish for luncheon, thin soups as an appetizer for dinner.

5. Serve only one food difficult of digestion in any one meal.

6. Select foods because they contribute most to the health of the family, rather than because they are cheap, are liked by the family, or require the least effort in preparation.

7. Serve easily digested foods for children and elderly people.

8. Select courses which contrast in flavour, a mild course being followed by one more pronounced. Strong seasonings which destroy natural food flavours are harmful.

9. Never serve two foods of pronounced flavour in the same meal. The combination of salmon, onions, and prunes is an unpardonable error.

10. For each course serve foods which contrast, but harmonize in colour. A course of steamed halibut, boiled potatoes, and cauliflower is colourless. When spinach is substituted for cauliflower, and a tomato sauce for the fish is added, a more interesting combination is produced.

11. Vary the texture of foods; i.e., do not serve two creamed foods in one course. Courses should vary in texture also. A liquid course like soup should be followed by a solid food.

12. Variety is of great importance in meal-planning. Secure this through methods of cooking and serving rather than by the use of a great number of foods at the same meal.

13. Do not serve all hot or all cold foods in the same meal.

14. Serve hot foods *hot*, and cold foods *cold*.

15. Those cereals and cereal foods that contain the whole grain should be given preference.

TYPICAL MEAL PLANS.

Breakfast Plans.

Type I.	*Type II.*	*Type III.*
Fruit.	Fruit.	Fruit.
Cereal.	Cereal.	Cereal.
Milk.	Toast or bread.	Bacon and eggs.
	Jam or marmalade.	Hot breads or toast.
	Beverage.	Beverage.

Luncheon Plans.

Type I.	*Type II.*	*Type III.*
Hot dish.	Hot dish.	Chops, steaks, or cold meat.
Dessert or salad.	Salad.	Vegetables.
Bread or rolls.	Rolls or muffins.	Salad.
Beverage.	Dessert.	Rolls or muffins.
	Beverage.	Dessert.
		Beverage.

NOTE.—Roast meats and mashed potatoes should be served for dinners, not for luncheons.

Dinner Plans.

Type I.	*Type II.*	*Type III.*
Meat.	Thin soup.	Cocktail.
Two vegetables.	Meat.	Meat.
Bread.	Two vegetables.	Two vegetables.
Dessert.	Bread.	Salad.
Beverage.	Dessert.	Bread.
	Beverage.	Dessert.
		Beverage.

TABLE-SETTING.

On the proper table service much of the comfort, cheerfulness, and refinement of the meal depends. No amount of lavishness and perfection in the preparation of the food will compensate for poor arrangement and service in the dining-room.

Well-laundered table-linen and clean dishes and silver arranged in an orderly manner are the strongest factors in making a table attractive. A few flowers, well arranged, add to the general appearance of the table. Avoid too high a basket or vase of flowers. *Paper flowers are not in good taste.*

Directions for Laying the Table.

NOTE.—A *cover* is the term used for the silver, glassware, and china placed on the table for one person. A space 20–24 inches wide and 15 inches deep is the usual measurement allowed for one cover.

1. See that the dining-room is in perfect order and that the air is fresh.

2. Cover the table with a silence cloth of felt or Canton flannel. Over this spread smoothly a table-cloth, the middle fold upward, dividing the table exactly in half.

3. Place silver 1 inch in from the edge of the table, allowing the width of the largest plate between the knife and fork. All silver should be perpendicular or horizontal to the edge of the table.

4. Place the knives at the right of the cover with the sharp edge of the blade turned towards the plate. Arrange in order of use, *beginning from the outside.*

5. Place the forks at the left of the cover with the tines turned up, in order of use, *beginning from the outside.*

6. Place the spoons at the right of the knives in order of use, *beginning from the outside.*

7. Place the tumbler to the rights of the tip of the largest knife, and the bread-and-butter plate to the left of the tip of the largest fork. (*See* cut, page 46.)

8. Place the napkin to the left of the fork and below the bread-and-butter plate, the open edge towards the cover. Fancy folding of the napkin is not in good taste.

9. Place the pepper and salt near the corners, or between two covers in line with the glass.

10. Place the carving-knife at the right and the fork at the left of the meat-platter and the tablespoons beside the dishes to be served. Tablespoons may be placed to the right of the cover of the hostess in line with the silver of the cover.

11. Place in front of the hostess, at the time for serving, the coffee-pot, sugar-bowl, cream-pitcher, and cups and saucers arranged in groups of two. These may be arranged on a tray, if desired. A cup should not be placed on a table without a saucer under it.

12. Place sugar-bowl so that the handles are parallel to the cover of the hostess, the cream-jug with handle towards the hostess. Sugar should not be served over a handle.

13. Arrange the chairs so that the edge of the seat is on the same line as the overhanging cloth.

14. In placing food on the table observe the art principle of balance; e.g., the meat course in front of host will balance the vegetables in front of the hostess.

15. Have the covers on opposite sides of the table within parallel lines.

TABLE SERVICE.

NOTE.—For History of Table Service see "Table Service and Decoration"—Gunn (Lippincott).

There are three ways of serving meals—the Russian style, the English style, and the Compromise style.

In the Russian style only flowers, silver, and china are placed on the table at the beginning of the meal. The several courses are served from the left side, each person helping himself when the dishes are passed; or the plates are served in the kitchen and placed before each guest. This style is best adapted to serving large numbers.

The English style of serving is used at small dinner-parties or with the family. The host carves and serves the meat and gravy and the hostess serves the soup, vegetables, salad, dessert, and coffee. The served dishes may be passed to each guest by the maid, or when no maid serves they may be passed from one person to another.

The Compromise style is a combination of both English and Russian styles, some of the courses being served from the kitchen and some from the table. Frequently the soup and dessert are served from the kitchen.

while the main course is served from the table. This type of service is most frequently used in Canadian homes for family meals.

Right-hand or Left-hand Service.

There are two methods of serving guests at the table which are recognized as correct—namely, the *right-hand* and *left-hand* service. In using the *right-hand* service all dishes are placed and removed from the *right*, with the exception of dishes that admit of choice. In the *left-hand* service all dishes are placed and removed from the *left*, with the exception of beverages.

Select the method preferred in your locality and follow carefully so as to avoid confusion.

Rules for Serving without a Maid.

1. Warm all dishes used for hot foods and chill all dishes used for cold foods.
2. Fill water-tumblers three-quarters full, just before guests sit down. Refill the glasses when needed.
3. Place butter on butter-plates just before guests are seated. Replenish when necessary.
4. Cut the bread just before serving, so that it will not dry out. Hot breads should be covered with a clean folded napkin or linen square to keep them hot.
5. Have all dishes for each course ready for serving.
6. Teach boys as well as girls to wait on the table correctly and to take their turn at serving, so that mother is relieved of that duty. Mother is the hostess and her place is at the table.
7. The hostess assigns each guest to his or her chair at the table. The lady guest of honour is placed at the right of the host, the gentleman guest of honour at the right of the hostess. A guest remains standing at the back of her chair until the hostess is seated and then sits down from the left-hand side of her chair.
8. Serve the hostess or the lady guest of honour first and the others in order of sitting. All ladies may be served first if desired. This method requires more passing.
9. *In clearing the table remove the food first; then remove the soiled plates, beginning with the hostess or the lady guest of honour. Salts and peppers are removed last, on a small tray.*
10. Remove everything pertaining to one course first before serving the next.
11. Use a folded napkin or small tray to crumb the table, if crumbing is desired.
12. Never reach in front of a guest.
13. If you are acting as waitress rise quietly, leaving napkin partially folded at the left-hand side of cover. Do not place napkin on the chair.
14. In serving afternoon tea, pass the cup and saucer so that the handle is facing the guest. The teaspoon should be placed on the right-hand side of the cup parallel to the handle.
15. If cream and sugar are passed on a tray, the handle of the cream-pitcher should face the guest.

Common Rules of Table Etiquette.

1. Stress personal neatness and cleanliness.
2. Sit erect with feet on the floor and elbows away from the table.
3. Eat slowly and quietly.
4. Do not play with utensils on the table.

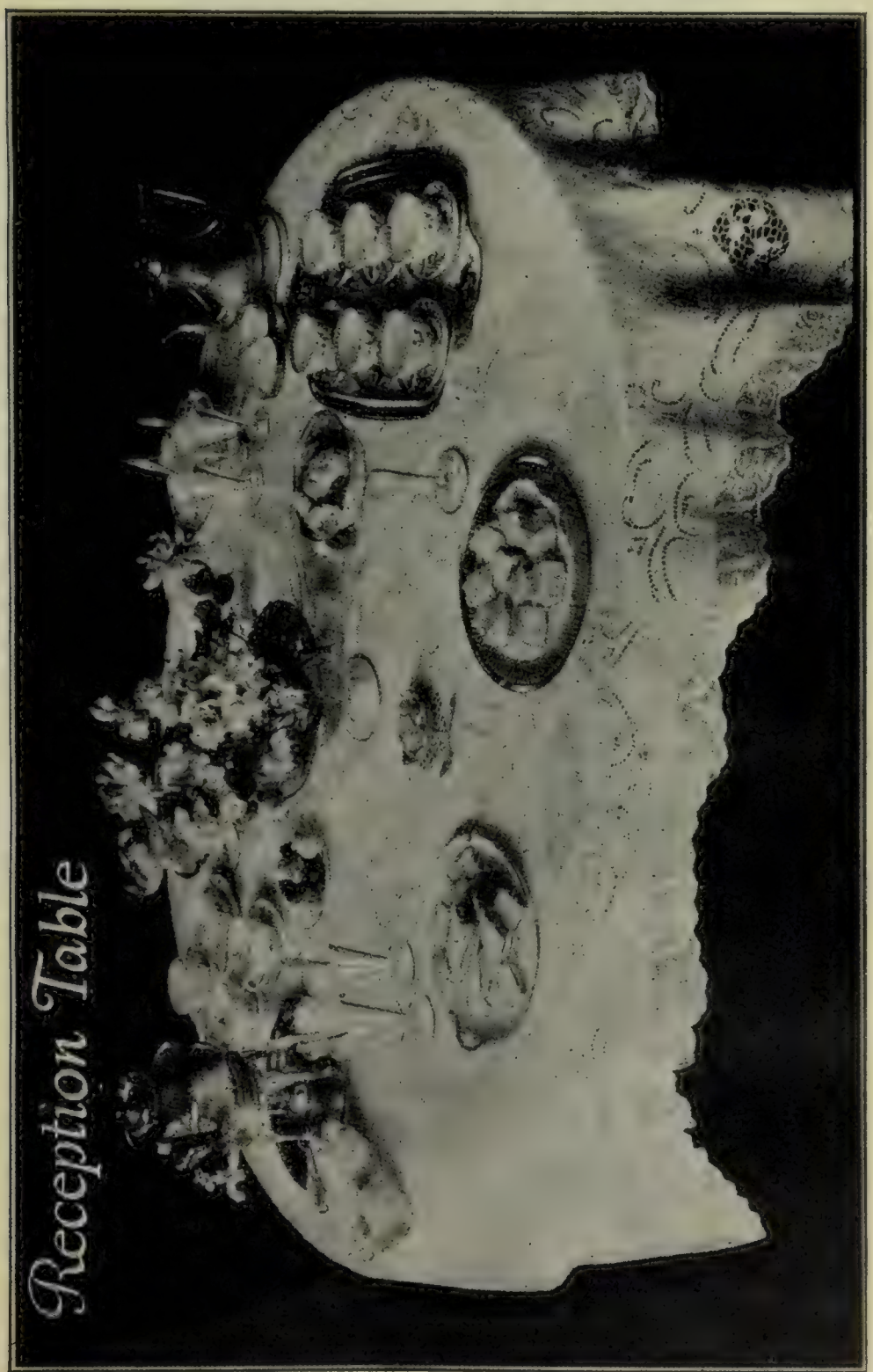
Taken from "The Canadian Cook Book" through the courtesy of The Ryerson Press.

5. Drink quietly from the side of the spoon, never from the tip. In filling the spoon dip it away from you.

6. A spoon when not in use should be placed on the saucer.

7. When finished with food served in a sherbet-glass, the spoon is left on the plate, not in the sherbet-glass.

8. Handle a drinking-glass near the base.



Reception Table

Taken from "The Canadian Cook Book" through the courtesy of The Ryerson Press.

A girl with complete uniform for class-room work in Home Economics.

9. Do not break crackers or bread into the soup.

10. Do not butter a whole slice of bread at one time; break off a small portion and butter it.

11. When finished dinner, place knife and fork side by side on the plate, slightly to the right. The prongs of the fork should be turned up.

12. Talk about cheerful and pleasant things.

13. Do not criticize the food.

14. Toothpicks, like other toilet articles, should be used in private.

QUESTIONS—TABLE SERVICE.

1. Name six rules for table manners.
2. Give the rules regarding the placing of table-cloth on the table.
3. What should be placed under a table-cloth? Why?
4. How far from the edge of the table should silver be placed?
5. What is the position of the blade of the knife on the table?
6. Should we fold napkins in fancy shapes? Why?
7. Which is preferable, coarse table-linen which is well laundered, or fine table-linen poorly laundered?
8. What is the position of spoons on the table?
9. Give directions for clearing the dinner-table.
10. What is the correct seat at the table for the lady guest of honour?
11. What rule do we observe in preparing bread for eating?
12. How should the teaspoon be placed on the saucer when serving afternoon tea?
13. What is the position of the tumbler on the table?
14. Where should the open edge of the napkin be?
15. How close to the table should the chairs be?
16. Is it correct to serve either from the left or right? Give rules in regard to each method.
17. Which type of serving is most used in your own locality?
18. Discuss the following habits: Leaving a spoon in the cup; breaking crackers into soup; handling a drinking-glass with the fingers inside the glass; reaching in front of a guest.
19. Name three ways in which you can save fuel in preparing a meal. Name five ways in which you can save work.

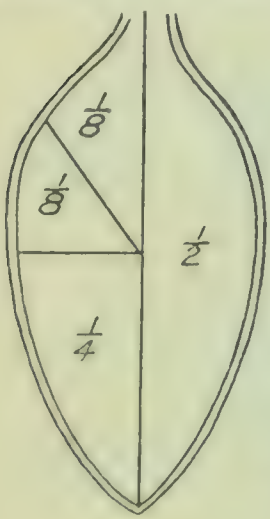
UNIT IV. FOOD PREPARATION.

Personal Cleanliness.

1. A wash-dress or a dress well covered with an apron is to be preferred.
2. The hair should be fastened with a band, so that no hairs may fall into the food while cooking.
3. The hands should be thoroughly washed with soap and water before beginning to cook.
4. When cooking, wash your hands whenever they become sticky or soiled, or after touching your hair or pocket-handkerchief.

Rules for Working.

1. Read recipe carefully; follow directions accurately.
2. Plan work so as to save time and labour.
3. *Economize in the use of dishes,* by measuring dry materials first, then liquids.
4. Never taste food from a mixing-spoon. Pour food from the mixing-spoon into the tasting-spoon.



MEASUREMENTS.

Accurate measurements are necessary to success in cooking. All measurements should be level.

1. In measuring dry material, fill the measure and level off with the straight edge of a knife.
2. When one-half a spoonful is desired, divide the material lengthwise of the spoon, and scrape out one-half; for one-fourth of a spoonful, divide crosswise the remaining half.
3. In measuring flour, sift once before measuring, and lift into the cup with a tablespoon.
4. In measuring a half-cup of fat, half-fill the cup with water, and add sufficient fat to bring the water to the one-cup line.

TABLE OF ABBREVIATIONS.

For the sake of convenience in cookery, the abbreviations used throughout this text are:—

tsp. for teaspoonful.
tbsp. for tablespoonful.
c. for cupful.
pt. for pint.
ssp. for saltspoonful.
qt. for quart.
gal. for gallon.
lb. for pound.
oz. for ounce.
f.g. for few grains.
min. for minute.
hr. for hour.

TABLE OF MEASURES.

3 tsp.	=1	tbsp.
12 tbsp.	=1	c. wet material (milk, water, etc.).
16 tbsp.	=1	c. dry material.
2 c.	=1	pt.
2 pt.	=1	qt.

TABLE OF MEASURES—*Continued.*

4 qt.	=1	gal.
8 qt.	=1	peck (dry).
4 c. flour sifted once	=1	lb.
2 c. butter packed solid	=1	lb.
2 c. chopped meat	=1	lb.
2½ c. corn-meal	=1	lb.
3½ c. Graham flour	=1	lb.
1¾ c. rice	=1	lb.
5½ c. rolled oats	=1	lb.
2 c. granulated sugar	=1	lb.
2⅔ c. brown sugar	=1	lb.
2¾ c. icing sugar	=1	lb.
4½ c. ground coffee	=1	lb.
3½ c. cocoa	=1	lb.
2 tbsp. cocoa	=1	sq. chocolate.
1 sq. Baker's chocolate	=1	oz.
4 c. grated cheese	=1	lb.
The juice of one lemon	=3	tbsp.
1 c. uncooked rice	=3	c. cooked rice.
1 c. cream	=3	c. whipped cream.

BEVERAGES.

WATER.

Water and milk are the two most important beverages. We need from 4–6 glasses of water per day. (*See* page 33.)

Boiling-point of Water.

In heating water the temperature gradually rises.

1. First we see tiny bubbles coming up from the bottom. These are merely air-bubbles. Air is dissolved in the water and, when heated, the air expands and comes to the surface.

2. Water that is "lukewarm" feels neither hot nor cold. Use a thermometer to find the temperature. A practical test is to place a drop on the wrist.

3. When big steam bubbles begin to rise but break on the surface and disappear, the water is "simmering." Find the temperature.

4. Water is boiling when it reaches the temperature of 212° F. at sea-level. Steam bubbles come up so large and so rapidly that the surface of the water is no longer level. At this stage we say the water is at a "full rolling boil."

MILK.

Milk is one of our most important foods. When we drink milk we should remember that we are taking a real food and not merely something to take the place of water. When enough milk is used, some other food can be left out of the diet. Milk contains all the foodstuffs and is almost a perfect food. Milk is, however, more nearly a perfect food for very young infants than for adults, so we may term it an almost perfect food for infants and a good food for grown persons.

Although milk contains a small amount of iron, it is insufficient for the needs of the baby after the supply stored in his body at birth is used up.

The milk diet is then supplemented with such iron foods as egg-yolk and green vegetables. If the milk is pasteurized, Vitamin C is destroyed and the shortage is made up by giving the child orange-juice or tomato-juice. For further protection against a shortage of Vitamins A and D, cod-liver oil is frequently prescribed.

Milk Builds Up Tissue.

The protein (casein) in one glassful of milk is equal to the protein contained in one large egg or in 1⅓ oz. of beef. Therefore, when we use enough milk in the diet we do not need much meat.

Milk Gives Heat and Energy.

1. Milk contains one of the most easily digested carbohydrates in the form of lactose or milk-sugar.

2. Milk contains fat called butter. When milk stands, the fat separates and comes to the top. This fat is called cream. This is an easily digested kind of fat and gives us heat or energy. Butter is rich in Vitamin A.

Milk Builds Bones and Teeth, and Regulates the Body Processes.

The mineral matter in milk is especially important because it is our best source of calcium. Since calcium and phosphorus are most essential for good bones and teeth, it is important to see that boys and girls have plenty of milk while growing. Older people need milk, too, but they may have a more limited supply.

Milk Promotes Growth and Health.

Milk is also a growth-promoting food on account of the vitamins it contains. It promotes growth in children and health for persons of all ages.

Milk should therefore be used in some form in the meals every day. A daily allowance of 1 qt. for children under 6 years of age and 1 pt. for each adult has been estimated to be an appropriate quantity.

Care of Milk.

1. Milk should be bought from sources which you know to be sanitary and pure. Clean milk is the only safe milk. Dirty milk may contain disease-germs that cause typhoid fever, tuberculosis, or other diseases. Clean milk comes from clean cows kept in clean barns. The milk must be handled by persons with clean hands and clean clothes, and it must be placed in clean pails, bottles, or pans.

2. Buy milk in tightly covered bottles rather than in bulk. The caps of some milk-bottles are labelled " pasteurized," which means that the milk has been heated to about 145° F., kept at that temperature for about 30 min., and then quickly cooled. Heating the milk in this way does not kill all the bacteria in milk. It merely destroys bacteria which cause disease.

3. Keep milk-bottles in a cool place where there are no flies or dust.

4. If a milk-bottle is put in the refrigerator it must always be tightly covered.

5. Milk should be placed in a part of the refrigerator removed from meat and vegetables or fruits because it absorbs odours very rapidly.

6. Always wipe the top of the bottle with a clean, damp cloth, or hold it under the water-tap before removing cover and pouring the milk from the bottle.

7. Always wipe the outside of the milk-bottle before putting it in the refrigerator.

Uses for Milk.

1. As a beverage.
2. In custards, puddings, desserts, etc.
3. In cream soups.
4. In escalloped and creamed dishes.
5. In cream sauces on vegetables.
6. In cookery—liquid for bread, cakes, muffins, griddle cakes, etc.

NOTE.—Milk sours through the growth of certain harmless bacteria in the milk. The bacteria feed upon the milk-sugar in the milk and lactic acid is formed. The thick part of the sour milk is called the "curd" and contains the casein, and the thin, watery part is the "whey" and contains water and some of the milk-sugar. Sour milk is used in cooking, preferably before the curd and whey separate.

TEA.

As far as we know, tea was discovered about 2000 B.C. in China. Most of the tea we use comes from China, Japan, Ceylon, and India. Tea is made from the leaves of a plant called Thea. The plant sends out four sets of new shoots a year, and the leaves from these shoots are gathered and cured for tea.

There are two types of tea—black and green tea. They can both be made from the same shrubs, the main difference being that black tea is fermented and green tea is not. During this fermenting process the leaves wither and turn dark before being dried. This process gives black tea a flavour different from that of green tea.

Green tea is made by drying the tea-leaves at a high temperature, which causes them to keep their green colour and curl up.

Tea contains a substance called "theine," which acts as a stimulant to the nerves. There is also present tannin, which is bad for digestion.

Tea itself has no food value. It is a mild stimulant, and is used largely because it removes the sense of fatigue. Poor tea, or tea taken in excess, produces indigestion and sleeplessness. Growing children require no stimulants, and their growth is best promoted without tea. When tea is taken, usually the amount of milk drunk is reduced.

When boiling water is poured over the tea-leaves and allowed to stand for three minutes it extracts the theine or stimulant and the oil which gives the pleasing flavour. Boiling the tea, or steeping it too long, draws out the tannin. This destroys the flavour and produces a hindering effect on digestion.

TEA.

1 tsp. tea. 1 c. boiling water.

1. Scald teapot; let stand till thoroughly heated.
2. Put in the tea; add the water required.
3. Let stand in a hot place to infuse 3 min.
4. Pour tea from leaves into a freshly scalded teapot and serve.

NOTE.—The water for tea should be fresh and freshly boiled.

ICED TEA.

1. Make tea; when infused, strain from leaves.
2. Sweeten, if desired.

3. Pour into glasses one-third full of chipped ice.
4. Serve with a slice of lemon.

TEA (FOR 50 PEOPLE).

½ lb. tea. 2½ gals. boiling water.
1 qt. cream.

1. If a large quantity is to be made at once, tie tea loosely in a cheese-cloth bag and drop into boiling water.
2. Remove at the end of 3 min.

COCOA AND CHOCOLATE.

Cocoa and chocolate are made from the pod of the cacao-tree grown in tropical countries. The pod is shaped somewhat like a cucumber and inside are a large number of seeds surrounded by pulp. The seeds are removed from the pulp, and after being allowed to ferment for a few days they are roasted. The husk is then removed and the seed is divided into two parts called "cocoa-nibs."

When cocoa-nibs are ground and pressed into a cake, the cake is known as chocolate. This chocolate is rather bitter to the taste and is used in cookery. When sugar is added to the cake it is called "sweet" chocolate.

Cocoa is made from chocolate by removing a large part of the fat. It is then ground and sold in bulk or in tin containers. The fat that is removed is called cocoa butter. Cocoa butter is used in confectionery and in the making of toilet preparations. Cocoa as a beverage has more food value than tea or coffee.

Cocoa is a very good beverage for children, since it is one way of introducing milk into their meals. It is a mild stimulant due to the theobromine present in it.

Chocolate contains more fat than cocoa, and this makes it more difficult to digest.

COCOA.

1 tbsp. cocoa. 1 c. water.
1–2 tbsp. sugar. 1 c. milk.
f.g. salt. ¼ tsp. vanilla.

1. Using the top of the double-boiler mix cocoa, sugar, and salt, and add boiling water; mix thoroughly.
2. Boil gently 5 min. to cook the starch.
3. Add cold milk and heat over hot water.
4. Beat until a thick froth forms, to prevent a scum; add vanilla if desired.
5. A marshmallow or a little whipped cream adds to the attractiveness.
6. Serve *hot.*

(FOR 50 PEOPLE.)

½ lb. cocoa. 5–6 qt. milk.
¾–1 lb. sugar. 1 tsp. salt.
3 qt. water. 4 tsp. vanilla.

CHOCOLATE.

1½ oz. unsweetened chocolate (1½ squares). f.g. salt.
1 c. boiling water.
3–4 tbsp. sugar. 3 c. milk.

1. Melt chocolate over hot water.
2. Add sugar, salt, and boiling water; stir until smooth; boil 5 min.

3. Add hot milk; reheat over boiling water.
4. Beat to form froth; serve with whipped cream or a marshmallow.

COFFEE.

The coffee-shrub is an evergreen plant that grows from 4 to 6 feet high under cultivation in all tropical countries. The coffee bean or berry is the seed of a fruit resembling a cherry. The cherry-like fruit is allowed to ferment so that the pulp surrounding the seeds may become soft and can be removed. Two of these beans are contained in a berry and grow with their flat sides together and are enclosed in a husk. The husk has to be dried and removed to allow the beans to fall apart.

The coffee-beans are then shipped to the country where they are to be sold. The beans are roasted to make them brittle and to develop the flavour. The housekeeper may prefer to buy the coffee in this form and grind it as needed, as coffee loses its flavour and aroma very quickly after being ground if it is left in an open container. Ground coffee should be sold in air-tight cans, but if sent from the store in paper sacks it should be emptied into air-tight cans at once.

Coffee contains a stimulating substance called caffeine, which is the same thing as theine in tea. It also contains tannin, and volatile oils which give to coffee its characteristic odour and flavour.

Coffee itself has no food value; it stimulates the nerves, brain, and heart, and the tannin hinders digestion. It is usually made stronger than tea, and therefore has a greater stimulating effect. Children need no stimulants; therefore they should avoid coffee as well as tea.

Freshly ground coffee gives the best results. Buy good, freshly roasted coffee-beans and grind just before using; or buy ground coffee in small quantity and keep in an air-tight container. Coffee should be served immediately after making.

BOILED COFFEE (WITH BOILING WATER).

1–1½ tbsp. coarsely ground coffee.
f.g. salt.
Egg white and shell may be added if desired.
3 tbsp. cold water.
¾ c. boiling water.

1. Mix coffee, salt, egg white and shell; add cold water; mix.
2. Turn into scalded pot; add boiling water. Fill spout with soft paper.
3. Boil very gently 3 to 5 min.; set back on stove.
4. Pour out a little coffee to clear the spout; return it to the coffee-pot; let stand 3 min. to settle.

NOTE.—A tbsp. of cold water should be used to settle grounds where an egg-white is not used.

BOILED COFFEE (WITH COLD WATER).

1. Proportions: Same as above.
2. Mix coffee and egg (if used) and full amount of water.
3. Bring to a boil and boil for 1 min.
4. Treat the same as when made with boiling water.

NOTE.—This method is simple, and is generally used for making coffee in large quantities at picnics and parties.

PERCOLATED COFFEE.

1–1½ tbsp. finely ground coffee. f.g. salt.
1 c. boiling water.

1. Scald percolator; put in coffee and salt.
2. Add boiling water; percolate 5–8 min.
3. Serve with cream or hot milk.

COFFEE (BY INFUSION).

1. Proportions: Same as above.
2. Coffee must be finely ground.
3. Use enamel or porcelain coffee-pot.
4. Scald pot.
5. Add coffee and boiling water.
6. Steep for 2 min.
7. Filter or add cold water to settle.
8. Serve at once.

NOTE.—This gives a coffee of a very delicate flavour.

LEMONADE (FOR 10–12 PEOPLE).

1½ c. sugar.
1 c. water.
Rind of 1 lemon (thin shavings).
Juice of 6 lemons.

1. Make syrup of water, sugar, and lemon-rind.
2. Boil 5 min.; cool.
3. Add lemon-juice; strain; dilute with cold water to taste—about 2 tbsp. syrup to 1 glass.

FRUIT PUNCH.

1 c. orange-juice.
½ c. lemon-juice.
½ tbsp. grated lemon-rind.
½ tbsp. grated orange-rind.
¾ to 1 c. sugar.
1 qt. boiling water.

1. Boil sugar, water, and fruit-rind 5 min.
2. Cool; add fruit-juices; strain and chill.
3. Dilute with iced water.

Variations.

1. Add 2 c. fruit-juice—raspberry, strawberry, cherry, grape, pineapple, loganberry; crushed fruit may also be added.
2. Add 1 qt. grape-juice.
3. Add 1 qt. ginger ale, or 1 pt. of ginger ale and 1 pt. grape-juice.

RASPBERRY VINEGAR.

3 pt. raspberries.
1 pt. cider vinegar.
1 lb. sugar to 1 pt. juice.

1. Pick over berries and cover with vinegar.
2. Allow to stand overnight.
3. Strain fruit and liquid through wet jelly-bag.
4. Add sugar and boil 15 min.
5. Pour into hot sterilized bottles.
6. Cork and seal.
7. When serving pour ¼ c. into a glass and fill with iced water.

Water. QUESTIONS.

1. How much water should one drink per day?
2. Why does the body need water in plentiful supply?
3. What directions would you give for the drinking of water at meal-time?
4. How can you tell when water is boiling?
5. Can you get water any hotter than boiling?
6. What are the uses of water in the body?
7. What liquid is used in making most beverages?
8. What percentage of the body is water?
9. Is impure water ever clear and sparkling in appearance?
10. Where does your water-supply come from?
11. What should we do with water before drinking it if there is the slightest doubt as to its purity?
12. What effect on the stomach has ice-water?
13. What are the dangers of the "public drinking-cup"?

Coffee.

1. Where does most of our coffee come from?
2. Why are the coffee-beans fermented before roasting?
3. Why should coffee be kept in a closed container?
4. Give ways of making coffee.
5. Why do we add egg-shell or egg-white to coffee when making it?

Tea.

1. Why are tea and coffee injurious?
2. Name two kinds of tea.
3. Where does most of our tea come from?
4. What is the stimulant found in tea?
5. What is the difference between green and black tea?
6. How long should we steep tea?

Cocoa.

1. From what source do we get cocoa?
2. Give the method of making cocoa.
3. Is cocoa made from skim-milk as nourishing as that made from whole milk? Why?
4. What is the difference between cocoa and chocolate?

Milk.

1. What is the proper method of caring for milk in the home?
2. Why do you think it is very necessary to have clean milk?
3. Does clean milk cost more than unclean milk? Why?
4. What is pasteurized milk? Sterilized milk? Certified milk?
5. Who is responsible for keeping the milk clean after it leaves the dairy?
6. What is the price of milk per qt.? Per pt.?
7. What is the price of 1 pt. of cream?
8. What is condensed milk?
9. What does it cost per can?
10. Is milk a valuable food? Why?
11. For what food may milk be substituted?
12. How could *you* use 1 qt. of milk each day?
13. Why is cream of tomato soup nourishing?

14. Give three uses for a white sauce?

15. What are the proteins found in milk?

16. Should your family increase its use of milk? Give reasons for your answer.

17. In what ways may milk be used for breakfast?

18. Why is milk considered so necessary, especially for babies and growing children?

19. How does milk-sugar compare with granulated sugar?

FRUITS.

There are several important reasons for eating fruit. Fruit is valuable because it contains some things that the body needs very much.

1. We should eat fruit every day because of the minerals it contains. Iron makes rosy cheeks and red lips. Calcium, found in fruit, builds strong bones and teeth. Other minerals make the muscles firm and strong.

2. Fruits also contain acids and water which regulate the body; for example, the banana, which seems so solid, is 75 per cent. water.

3. Fruit is also valuable for its cellulose. Cellulose is the woody fibre found in fruits and vegetables. If you eat sufficient fruit and vegetables, you will not have to resort to iron tonics or to laxatives.

4. The vitamins found in fruit, especially in oranges, lemons, grapefruit, and tomatoes, promote growth and make one healthy.

5. In addition to its value in keeping the body in good condition, fruit has fuel value. This fuel is largely carbohydrate, in the form of sugar.

The Use of Fresh Fruits.

We are fortunate to live in a country that produces a great variety of fruits. In all probability fruit will be higher-priced in winter and many people will think that they cannot afford to use it. If fresh fruit is too expensive, dried or canned fruit may be substituted.

Fruits are at their best when thoroughly ripe, and ripe fruit only should be eaten raw. In the ripening process the starch in the fruit is changed to sugar, the amount of acid decreases, and the fibre is softened. The cooking of unripe fruit does practically what the sun does in the ripening process.

Classification of Fruits.

1. *Fresh fruits*—valuable for all reasons given above.

2. *Dried fruits*—have a higher percentage of sugar and satisfy the craving for sweets. They contain valuable mineral salts. Dates and raisins may be added to cereals. Less sugar should be used when these are added.

GENERAL RULES FOR COOKING.

A. Fresh Fruit.

1. Wash, cook whole or quarter, peel, and cut in pieces.
2. Add a small amount of water to keep from burning.
3. Cover and cook gently until tender.
4. Add sugar to sweeten and cook a minute longer.

B. Dried Fruit.

1. Wash thoroughly.
2. Soak in enough cold water to cover for several hours, or overnight.
3. Cover and cook slowly until tender, in the water in which fruit has been soaked.

4. Add sugar and lemon-juice.
5. Simmer 5 min. longer.
6. Cool and serve.

NOTE.—Dried fruits may be cooked in the top of a double-boiler placed on the back of the stove.

APPLE SAUCE.

6 tart apples.
½ c. water.
½ c. sugar.
1 tbsp. lemon-juice, or
Small piece of lemon-rind, or
½ tsp. nutmeg, or
½ tsp. cinnamon, or
6 whole cloves.

See general rules for cooking fresh fruit.

NOTE.—Apples may be cooked in their skins and then pressed through a sieve. If desired the skins may be left on as they are valuable as roughage.

RHUBARB SAUCE.

3 c. rhubarb.
¾ to 1 c. sugar.

See general rules for cooking fresh fruit.

Stewed peaches, gooseberries, etc., are cooked in the same way.

APPLE COMPOTE.

8 apples.
1 c. sugar.
1½ c. water.
Thin shavings of lemon-rind.
1 tbsp. lemon-juice.

1. Wipe, quarter, core, and pare apples: cut in eighths.
2. Make syrup of sugar, water, lemon-rind; boil 5 min.
3. Remove rind; put in half of apples, or enough to cover the surface of the syrup.
4. Cover; cook slowly until clear; lift out carefully on serving-dish.
5. Cook remaining apples; add lemon-juice to syrup and strain over apples.

NOTE.—*Coddled Apples* are prepared as above, leaving the apples whole. The centres may be filled with jelly.

BLUSHING APPLES.

1. Select red apples of medium size; wipe, core, and peel, leaving a band about ¾ in. wide around the centre of the apple.
2. Prepare syrup, adding some of the red peelings, and cook apples in it as for Coddled Apples.
3. Lift apples out when soft; pour strained syrup over apples.
4. Serve with whipped cream, if desired.

BAKED APPLES.

1. Wipe, core, and score apples; place in baking-dish.
2. Fill each centre with sugar; add ½ tbsp. lemon-juice or ¼ tsp. cinnamon for flavouring.
3. Dates, raisins, nuts, or peanut butter may be placed in the centre of apples for variation.
4. A small piece of butter may be placed on each apple.
5. Pour the water around the apples, ⅔ c. to 6 apples.
6. Bake in a moderate oven till soft, 30 to 45 min.; baste every 10 min.
7. Lift out on serving-dish; pour the juice over the apples.
8. Serve hot or cold, with or without cream.

APPLE SNOW.

2 c. strained apples. 1 egg-white.

1. Stew sour apples until tender. Sweeten to taste and rub through a sieve. (These should make 2 c.).
2. Beat egg-white stiff and gradually beat the apples into it. Beat again until quite stiff.
3. Serve with Custard Sauce.

STEAMED APPLE PUDDING.

4–6 sour apples.
1 c. flour.
⅓ c. sugar.
2 tsp. baking-powder.
¼ tsp. salt.
2 tbsp. butter.
½ c. milk.

1. Wipe, quarter, core, pare, and slice the apples.
2. Place in a buttered baking-dish, sprinkle with sugar, and steam until nearly tender.
3. Mix remaining ingredients as in Baking-powder Biscuits.
4. Pour over apples. Cover and steam 25–35 min. longer.
5. Turn on a hot plate, with the apples on the top.
6. Serve with sugar and cream or Lemon Sauce.

APPLE DUMPLINGS.

6 apples.
6 tbsp. sugar.
Nutmeg or cinnamon.
2 c. flour.
4 tsp. baking powder.
½ tsp. salt.
¼ c. fat.
⅔ c. milk.

1. Mix and sift the flour, baking-powder, and salt.
2. Rub in the shortening. Add the milk.
3. Roll out the dough like biscuit-dough, making six thin sheets.
4. In the centre of each piece of dough place an apple which has been peeled and cored.
5. Fill the centre hole with sugar and sprinkle with spice.
6. Draw the dough up around the apple and moisten the edges.
7. Press them into place.
8. Bake or steam the dumplings until the apples are tender.

APPLE CRISP.

8–10 apples.
¼ c. sugar.
Cinnamon.
¼ c. butter.
¾ c. brown sugar.
⅓ c. flour.

1. Peel the apples and slice them into thin slices.
2. Pile into a buttered baking-dish and continue until the dish is almost full.
3. Sprinkle with the ¼ c. sugar (white or brown) and the cinnamon.
4. Prepare crumbs for the top by creaming together the butter, sugar, and flour.
5. When this mixture is worked together so that it resembles fine bread-crumbs, pat it on top of the apples.
6. Bake about 20 min. or until the apples are soft and the top is golden brown.

STEWED PRUNES.

½ lb. prunes.
2½ c. cold water.
¼ c. sugar.
1 tbsp. lemon-juice.

Cook according to general rules for Dried Fruit.

NOTE.—Evaporated or dried apples, peaches, or apricots may be treated similarly.

FRUIT-WHIPS.

1 c. fruit pulp, prune, apricot, banana, apple sauce, grated apple, or crushed berries.
¼ c. sugar.
2 egg-whites.
Lemon-juice, if desired.

1. Beat egg-whites stiff but not dry.
2. Add gradually 2 tbsp. sugar to each egg-white, and beat until dissolved.
3. Add lemon-juice to fruit-pulp.
4. Fold pulp into whites.
5. Pile lightly in a serving-dish.
6. Chill and serve.
7. Custard sauce may be made from the yolks.

NOTE.—Prune-whip may be turned into a buttered baking-dish and baked in a slow oven until set—about 20 min.

WAYS OF PREPARING ORANGES AND GRAPEFRUIT.

Method I.

1. Wipe orange or grapefruit and cut in half crosswise.
2. With a very sharp-pointed knife separate the pulp from the skin around the entire circumference.
3. Separate sections and remove pithy centre.
4. Serve on a plate.

Method II.

1. Peel orange carefully, and slice thinly with a very sharp knife.
2. Arrange attractively on plate for serving.

Method III.

1. Squeeze orange, using lemon-squeezer.
2. Chill and serve in a glass.

FRUIT COCKTAIL (FOR 6 PEOPLE).

1 grapefruit.
1 orange.
¼ c. pineapple-juice.
1 banana.
2 slices of pineapple.
2 tbsp. sugar.

1. Remove pulp from grapefruit and orange, removing tough cellulose.
2. Cut banana in desired shapes.
3. Add juice and pineapple cut in cubes.
4. Sprinkle with sugar and chill thoroughly.
5. Serve in sherbet-glasses, fruit-dishes, or grapefruit or orange cases, and garnish with a cherry. Fill glasses ½ to ⅔ full.
6. Place on small plate, preferably on a doily.

BAKED BANANAS.

6 bananas.
1 tbsp. butter.
2 tbsp. lemon-juice.
⅓ c. sugar.
½ c. water.

1. Remove skins from bananas, cut in halves lengthwise, and place in a shallow granite pan.
2. Make syrup of sugar and water. Add lemon-juice and butter.
3. Pour ½ syrup over bananas.
4. Bake in a slow oven 20 min., basting with remaining syrup.

QUESTIONS.

1. What valuable foodstuffs do we wish to obtain when we eat fruit?
2. Why should raw fruits be washed before serving?
3. What place or places on the menu would you give fresh fruit? Dried fruit?
4. Which is the cheaper—a pound of fresh apples or a pound of dried apples? See whether you can find out which yields the higher food value.
5. Which foodstuff found in fruit contributes to its laxative quality?
6. Does one get the same kind of fuel in fruit that one gets in potatoes?
7. Where does the greater percentage of our fruit come from?
8. What change takes place in the starch of fruit during the ripening process?
9. Why is sugar added to stewed fruit after it has been softened by boiling?
10. What effect does cooking have on underripe fruits?
11. What is meant by purchasing fruit "in season"?
12. What fruits are in season at the present time?
13. What does a serving of grapefruit cost?
14. What causes fruit to spoil?

CEREALS.

Cereals form one of our chief sources of carbohydrate. Those which contain the bran, such as rolled oats and wheat-flakes, are much richer in mineral salts, vitamins, and cellulose than those which do not, such as cream of wheat and polished rice. The cellulose in cereals is tougher and coarser than that in fruits, and different cereals vary in the quantity and coarseness of this fibre. For this reason the various cereals require different lengths of time for cooking.

Cereals are divided into two general classes, coarse cereals and fine cereals, depending on the method of manufacture.

Coarse Cereals.—Rolled oats, flaked wheat, flaked barley.

Fine Cereals.—Wheat, farina, corn-meal.

Cooked cereals are best adapted for growing children, while prepared cereals, introduced occasionally, give a pleasing variety to the breakfast menu.

The reasons for cooking cereals are:—

1. To soften the cellulose.
2. To burst the starch-grains and to cook thoroughly.
3. To improve the flavour.

GENERAL PROPORTIONS.

Cereal.	Water.	Salt.	Time.
1 c. coarse. 1 c. fine.	3 c. 4½–5 c.	1 tsp. 1½ tsp.	1–1½ hr. 45 min.–2 hr. (for corn-meal).

1. Have water boiling in upper part of double boiler; add salt.
2. Add cereal slowly, especially in the case of fine cereal.
3. Cook 5 min. over direct heat, then finish over boiling water.

NOTE.—If cereal is cooked at night, pour a little water over the top to prevent a crust from forming. Raisins and dates, added to the cereals 10 min. before serving, add variety.

BOILED RICE.

1 c. rice. 2 tsp. salt.
8 c. water.

1. Pick over and wash the rice.
2. Have water boiling briskly; add salt.
3. Add rice slowly in order not to check the boiling.
4. Boil, uncovered, until soft—about 25 min.
5. Drain in a sieve and pour boiling water through to rinse the starch paste from the rice-grains.

NOTE.—Test rice by tasting, or by pressing a kernel between the fingers.

DOUBLE-BOILER COOKED RICE.

3 c. boiling water. 1 tsp. salt.
1 c. rice.

1. Fill the lower part of the double boiler one-third full of boiling water.
2. In the top part of the double boiler put 3 c. of boiling water and 1 tsp. salt.
3. Place this part of double boiler directly over the flame.
4. When the water boils, slowly add the cereal, stirring the mixture. Keep on stirring and cook the cereal for 10 min.
5. Place the top part of the double boiler over the lower part. Set the lower part over the flame.
6. Cover the top part. Let the rice cook in the double boiler until it is tender. For white rice this usually requires about 45 min.; for brown rice, 1½ hours. The time for cooking brown rice may be shortened if it is soaked in water before cooking.

QUESTIONS.

1. What is our chief source of carbohydrate?
2. Which cereals are richest in mineral salts, vitamins, and cellulose?
3. What two classes of cereals have we?
4. How does the class affect the preparation of the cereal?
5. Why should we eat bread and breakfast foods made from whole grains?
6. Which is heartier, a serving of oatmeal or of corn-flakes?
7. Which would you consider it better to serve as a general rule?
8. Under what circumstances would you think it better to have the other?
9. Why do cereals when cooked require little or no sugar?

10. Give three reasons for cooking cereals.
11. What form of carbohydrates is found in cereals?
12. What plant in South America gives us tapioca?
13. What part of the plant is used?
14. From what country do we get rice?
15. In what part of the grain is the most mineral matter found? Cellulose?
16. How do cereals rank as food?
17. Is the protein of cereals as good as that found in milk, eggs, meat?
18. Compare the prices of rolled oats, cream of wheat, corn-flakes, and shredded wheat.
19. Where are the great grain- or cereal-producing areas of the world?

SOUPS.

Soups without stock have a higher food value than soups with stock. The milk or cream of the white sauce furnishes the protein, and the vegetables contain starch and mineral salts. Soups are easily digested. Cream soups may be used as the main dish for luncheon or supper, while stock soups are served as an appetizer.

STANDARD PROPORTIONS FOR WHITE SAUCE.

Sauce.	Liquid.	Thickening.	Fat.	Seasoning.	Uses.
No. 1, thin	1 c.	1 tbsp.	1 tbsp.	½ tsp. salt.	Cream soup, toast.
No. 2, medium	1 c.	2 tbsp.	2 tbsp.	½ tsp. salt.	Creamed vegetables, pudding sauces.
No. 3, thick	1 c.	3 tbsp.	2 tbsp.	½ tsp. salt.	Salad dressing.
No. 4, very thick	1 c.	4 tbsp.	2½–3 tbsp.	½ tsp. salt.	Croquettes, soufflés.

NOTE.—The amount of fat may be reduced by one-half if desired. With a limited amount of fat Method II. gives the best results. The *fat* may be butter or any butter substitute. The *liquid* may be milk, vegetable stock, or a mixture of both. Tomato Sauce may be similarly made, using tomato-juice or a mixture of tomato and meat stock as liquid. To make *gravy*, follow the same method as for a medium sauce.

Method I.

1. Melt fat, being careful not to brown.
2. Remove from the fire and add flour and seasonings; stir until smooth.
3. Add heated milk slowly. (Milk should be heated in a double boiler.)
4. Bring to a boil, stirring constantly, and cook 10 min. in top of double boiler.

Method II.

1. Mix flour with enough cold milk to make a smooth paste.
2. Add enough milk to make mixture pour.
3. Add to heated milk.
4. Bring to a boil, stirring constantly.
5. Cook over hot water 10 min.; add fat.

CREAM OF TOMATO SOUP.

2 c. cooked tomatoes.
¼ tsp. soda.
2 c. thin white sauce.
1 tsp. salt.
⅛ tsp. pepper.
1 slice onion.

1. Heat tomatoes and onion to boiling; cook, if not very soft.
2. Press through a sieve; add soda.
3. Make a thin white sauce according to standard rule.
4. Immediately before serving, pour the tomato into the white sauce.

NOTE.—More tomatoes may be added if desired.

Variation. TOMATO STOCK SOUP.

1. Double the amount of tomatoes.
2. Omit the soda and add ½ tsp. celery salt, a few peppercorns, and a bay-leaf.
3. Substitute water or stock for milk in white sauce.
4. Prepare as above.

CREAM OF PEA SOUP.

1 pt. can of peas.
1 pt. cold water.
1 tsp. sugar.
2 c. thin white sauce.

1. Heat the peas in the water.
2. Press through a coarse sieve; add sugar.
3. Combine with thin white sauce made according to general rules.

Cream of Corn Soup is made in the same proportions and in the same way as Cream of Pea Soup. A little onion improves the flavour.

CREAM OF CELERY SOUP.

1½ c. celery.
3 c. water.
2 c. thin white sauce.
Onion-juice if desired.

1. Cook celery in boiling water until soft.
2. Press through a coarse sieve (there should be a pint of stock and pulp).
3. Add to thin white sauce.
4. Serve *hot.*

NOTE.—Outer stalks and green leaves or dried celery-leaves (1 tbsp. to 1 c. boiling water) may be used instead of fresh celery.

Cream of Carrot Soup is made in the same proportions as Cream of Celery Soup.

CREAM OF POTATO SOUP.

1½ c. hot riced potatoes or
1 c. mashed.
2 c. potato stock or 2 c. milk.
1 small onion.
¼ tsp. celery salt.
1 tsp. chopped parsley.
2 c. thin white sauce.

1. Scald milk with the onion and add slowly to potatoes.
2. Add thin white sauce and celery salt.
3. Strain and add parsley.
4. Serve *hot.*

VEGETABLE SOUP.

½ c. cubed carrots.
½ c. cubed turnips.
½ c. cubed celery.
1 c. cubed potatoes.
½ c. chopped onions.
1½ qt. water.
¼ c. butter or dripping.
½ tsp. parsley.
½ tsp. salt.
¼ tsp. pepper.

1. Cook all vegetables except potatoes in the fat 10 min. or until lightly browned.
2. Add potatoes and cook 2 min. longer.
3. Add water; simmer 1 hour and add parsley and seasonings. Add water to keep the amount of liquid 1 qt.
4. Serve *hot.*

BROWN STOCK SOUP.

2 lb. meat and bone.
6 c. cold water.
1 small onion.
½ c. carrots.
½ c. turnips.
2 stalks celery.
4 cloves.
6 peppercorns.
1 bay-leaf.
1 tsp. mixed sweet herbs.
1 spray parsley.
1 tsp. salt.

1. Soak the bones and half the meat in cold water 1 hr.
2. Cut remaining meat into small pieces; roll in flour; brown in a little fat in hot frying-pan.
3. Add to bones and water and cook below boiling-point for 2 hrs.
4. Add vegetables and seasonings and cook 1½ hr. longer.
5. Serve *hot.*

PEA, BEAN, OR LENTIL SOUP.

1 c. dried peas (split).
8 c. water.
1 carrot.
1 large onion.
1 tbsp. fat } or ham-bone.
1 c. milk }
2 tbsp. chopped parsley.
1 tsp. salt.
⅛ tsp. pepper.

Method.

1. Wash peas and cover with water. Stand overnight.
2. Put on to boil along with the bone, if it is used, and cook 2 hours.
3. Wash, peel, and chop onion. Cut up carrot and add to soup along with the fat. Boil ½ hour longer.
4. Add salt and pepper and parsley. If milk is used, warm and add it, too. Do not boil again. Serve with croutons.

SOUP ACCOMPANIMENTS.

Crisp Crackers.

1. Place crackers on baking-sheet; bake until lightly browned.

Cheese Wafers.

1. Place wafers on baking-sheet; sprinkle with grated cheese. Paprika may be added.
2. Bake until cheese is melted.

Croutons.

1. Cut slices of stale bread ½ inch thick; cut into cubes.
2. Place in baking-pan and brown in a hot oven.

Soup Sticks.

1. Cut stale bread into ½-inch slices; remove crusts.
2. Cut into strips ½ inch wide and 2½ inches long.
3. Brown in a hot oven.

QUESTIONS.

1. Why is soda necessary in making tomato soup?
2. Why is the tomato added to the white sauce instead of the white sauce poured into the tomato?
3. Which has the higher food value, cream or stock soup?
4. Are soups easy or difficult of digestion?
5. Name two ways of preventing lumps in making a white sauce.
6. What are the standard proportions for a sauce for vegetables?
7. Name three uses for a white sauce.
8. What is the foundation of all cream soups?
9. When you have more flour than fat, which method of mixing a white sauce is the better?
10. In making a soup from a soup-bone, what is the first step?
11. Which is the cheaper, cream of tomato soup or cream of potato soup?

VEGETABLES.

The term "vegetable" includes a large class of foods which are used in great quantities in our diet. Vegetables of many kinds can now be had at all seasons of the year, because the canned and dried vegetables, like the fresh ones, can be shipped successfully from one part of the country to another. In large city markets a great variety of fresh vegetables can be bought even in midwinter. Hothouse and imported vegetables are expensive and in many cases they are not of good flavour.

Vegetables are important in the diet because they furnish a large share of the mineral matter needed by the body. They supply carbohydrates in the form of starch and sugar, and also supply roughage or bulk in the diet. There are vitamins in many vegetables, especially in the leafy vegetable.

Vegetables are similar to fruit in that they are good health assurance.

1. Vegetables are valuable as laxatives. All vegetables contain cellulose or woody fibre, to which their laxative quality is chiefly due.

2. Vegetables are important sources of minerals, such as iron, phosphorus, and calcium. Since the diet is likely to be deficient in these minerals it should include a liberal supply of vegetables.

3. Vegetables are important sources of Vitamins A, B, and C.

CLASSIFICATION OF VEGETABLES.

1. According to the Part of the Plant Used.

(*a.*) Leaf—Lettuce, cabbage, brussels sprouts, spinach, dandelion greens, endive.

(*b.*) Flower—Cauliflower, broccoli, French artichokes.

(*c.*) Fruit—Tomato, eggplant, pepper, string beans, squash, marrow, cucumber.

(*d.*) Seed—Peas, beans, corn.

(*e.*) Root—Beet, turnip, parsnip, carrot, radish.

(*f.*) Stalk—Celery, chard, asparagus.

(*g.*) Tuber—Potato, sweet potato.

(*h.*) Bulb—Onion, leek.

2. According to Composition.

(*a.*) *Green vegetables*—sometimes called "watery vegetables." This includes all juicy vegetables such as tomatoes, asparagus, cabbage, lettuce, parsley, cucumbers, celery chard. Green vegetables contain a high percentage of water, minerals, and vitamins, but little or no starch or protein. Green celery, green asparagus, and green lettuce-leaves are richer in Vitamin A than are the leaves that are bleached.

(*b.*) *Starchy vegetables.* These vegetables contain an important quantity of starch and some protein. To this group belong potatoes, corn, parsnips, carrots, sweet potatoes, onions, turnips.

(*c.*) *Legumes.* These contain more protein than the other vegetables and include such plants as peas, beans, lentils.

3. According to Flavour.

(*a.*) *Mild-flavoured vegetables*, including carrots, lettuce, potatoes, beans, celery.

(*b.*) *Strong-flavoured vegetables*, including cabbage, onions, green peppers and cauliflowers.

This grouping of vegetables is very important in cooking. The substances that give a strong flavour to these vegetables pass off in steam or dissolve in the water. Generally strong-flavoured vegetables are cooked in a large amount of water with the cover off.

VEGETABLE COOKERY.

"Cover with water and boil until tender" is no longer the standard method of cooking vegetables. All too often the vegetable-water is drained into the sink, carrying with it fine flavour, valuable minerals, and vitamins which have cooked out of the vegetables. To avoid this loss, most mild vegetables should be cooked in a tightly covered saucepan with a small amount of water, or steamed or baked in an oven. By a "small amount of water" is meant, usually, about ½ cup. If the pan is large, sufficient water should be added just to cover the bottom. Some vegetables, such as onions, cabbage, asparagus, etc., need special cooking. (*See* General Rules.)

Just cover the bottom of the saucepan which is to be used with boiling water. Then add the vegetables, which have been prepared in the usual way. Cover the saucepan with a tight-fitting cover and place the vegetables over a full heat. As soon as the steam is noticeable, lower the heat enough to keep the water still boiling, and continue cooking until the vegetables are tender. While cooking, the lid should not be lifted to allow the steam to escape. Vegetables should be cooked until they are just tender and no more. Turn them into a serving dish and season as desired. Any water left in the saucepan may be used in gravy, boiled off, or used in making a sauce.

Long cooking tends to rob vegetables of their bright colours. Everything must be done to shorten the cooking as much as possible. Thus, by having the water at a full, rolling boil when vegetables are put into it, and by keeping it boiling during the entire cooking period, considerable time is saved.

Of all the vegetables served, those that are more frequently poorly cooked are cabbage, brussels sprouts, cauliflower, turnips, and onions. Not only do they have a disagreeable flavour and a strong odour, but they take on an unappetizing brownish colour as well. Overcooking is usually responsible for these results. (For directions *see* page 70.)

GENERAL RULES.

1. Cook summer vegetables as soon after gathering as possible.
2. Keep vegetables in a cool, dry place. Remove all withered or dried leaves and tops before putting the vegetables away.
3. Select medium-sized vegetables and wash carefully.
4. If vegetables are wilted, soak in cold water until crisp. Soak cauliflower in salted water 1 hour before cooking.
5. Wash carefully, pare or scrape, if skins must be removed. Pare onions under cold water. If cooked in the skins, cut tops of beets 1 inch from the root. Young beets may be peeled, sliced, and cooked in a small amount of water, which should be absorbed when beets are tender.
6. Do not prepare vegetables and then allow them to stand for some time in cold water. Such a practice increases the loss of sugar, minerals, and vitamins.
7. Have the water at a full, rolling boil. The length of the cooking period principally affects the loss of vitamins. The time necessary for cooking is decreased materially by starting the vegetables cooking in boiling rather than in cold water. Add the vegetables and salt (1–1½ tsp. to every quart of water used, or if cooking with a small amount of water, about 1 tsp. salt to a serving of vegetables for a family of six). Salt helps to retain the colour of green vegetables and improves the flavour and texture of all.
8. As a general rule, cook strong-flavoured vegetables uncovered in a large amount of water. For an exception, see the method of cooking cabbage on page 73. Cook mild-flavoured vegetables in a small amount of water.
9. Drain vegetables as soon as tender and serve at once. Overcooking is responsible for more undesirable flavours and faded, unattractive colours in vegetables than is any other one thing.
10. Baking or steaming is advised, when possible, as these methods conserve mineral salts.
11. *Buttering.*—We use 1⅓ tbsp. of butter per 2 cups of cooked vegetable, except for Irish potatoes and Hubbard squash, which are mashed.
12. *Creaming.*—Allow ½ cup white sauce for 2-cup portion of vegetable. For peas use ¾ cup.

TIME-TABLE FOR COOKING VEGETABLES.

(PREPARED BY GOOD HOUSEKEEPING INSTITUTE.)

Vegetable.	How Prepared for Cooking.	Time Period for Cooking. (*See* Foot-note.)			
		In Oven.*	In Tightly Covered Saucepan with a Little Water.†	In a Steamer or Inset Pans of a "Waterless Cooker."‡	In a Steam-pressure Cooker at 15 lb. Pressure.
Asparagus	Tips separated from edible butts		Tips, 10–15 min. Butts, 25–35 min.	Tips, 20–25 min. Butts, 40–45 min.	10–12 min.
Beans, lima	Shelled	40–45 min. at 450° F.	20–30 min.	35–45 min.	13–15 min.
Beans, string	Strings removed, cut crosswise in thirds	60–75 min. at 450° F.	30–40 min.	50–60 min.	15–20 min.
Beets (young)	Whole with 1" of stem left on	60–70 min. at 450° F.	35–60 min.	60–90 min.	25–30 min.
Brussels sprouts	Whole	(*See* page 73)			
Cabbage, green	Shredded	(*See* page 73)			
Cabbage, white	Shredded	(*See* page 73)			
Carrots, young	Sliced crosswise or in thin strips	30–45 min. at 450° F.	20–30 min.	30–40 min.	10–12 min.
Carrots, old	Sliced crosswise or in thin strips	40–50 min. at 450° F.	30–40 min.	40–60 min.	15–18 min.
Cauliflower	Separated into flowerets	35–45 min. at 450° F.	8–10 min.*	20–35 min.	6– 8 min.
Celery	Cut in 1" pieces	35–50 min. at 450° F.	15–20 min.	20–30 min.	7–10 min.
Corn	Whole		7–12 min.		10 min.
Onions, white	Left whole (2½" in diameter)	(*See* page 73)			
Peas	Shelled	30–45 min. at 450° F.	17–25 min.	25–30 min.	8 min.
Potatoes, white	Pared, left whole (medium size)	50–60 min. at 500° F.	35–40 min.	40–45 min.	18–22 min.
Potatoes, sweet	Left whole (medium size)	35–45 min. at 500° F.	30–35 min.	30–40 min.	12–18 min.
Spinach	Roots and tough stems removed		10–15 min.	15–20 min.	8–10 min.
Squash, summer	Pared, seeded, cut in ¼" slices	30–45 min. at 450° F.	15–20 min.	20–30 min.	10 min.
Squash, Hubbard	Pared, seeded, cut in 2" pieces	50–60 min. at 450° F.	35–45 min.	45–60 min.	18–25 min.
Turnips, white	Pared, cut in 1" cubes	60 min. at 450° F.	20–25 min.	25–35 min.	10 min.
Turnips, yellow	Pared, cut in 1" cubes	60 min. at 450° F.	25–30 min.	30–40 min.	10–12 min.

* In baking vegetables in the oven, the Institute uses a 6-cup covered casserole, and allows about ½ cup boiling water for all vegetables but two; 2 cups boiling water are added to beets, and none to spinach.

† In cooking vegetables in a tightly covered saucepan, the Institute uses enough boiling water just to cover the bottom of the saucepan—½ cup or more. No water is added to spinach, while corn is covered with water.

‡ In cooking vegetables in a steamer or in the inset pans of a "waterless cooker," the Institute uses at least 1 qt. of boiling water in the bottom of the utensil to prevent boiling dry, but none is added to the vegetables.

NOTE.—The above time periods are approximate, for the exact cooking-time varies with the age of the vegetables and the altitude. The time stated is counted after the vegetables come to a full rolling boil.

BOILED POTATOES.

1. Select potatoes that are smooth and of uniform size.
2. Cook in boiling, salted water until soft.
3. Drain and let stand uncovered in a warm place until served.
4. Serve hot.
5. Potatoes may be boiled with the skins on, or steamed.

Variations.

RICED POTATOES.

1. Put cooked potatoes through a hot potato-ricer and serve at once. Do not pack or mash in putting into the serving-dish. Sprinkle with paprika.

CREAMED POTATOES.

1. Cut the boiled potatoes into ½-inch cubes. Make a medium white sauce and combine with potatoes while hot. Add finely cut parsley and serve.

MASHED POTATOES.

6 boiled potatoes.
2 tbsp. butter.
4 tbsp. hot milk.
½ tsp. salt.
Pepper.

1. Mash the cooked potatoes with a potato-masher until soft; add the butter, salt, pepper, and milk, and beat all until light and fluffy. Pile lightly in a hot serving-dish.

BAKED POTATOES.

1. Select smooth, medium-sized potatoes.
2. Wash well with brush.
3. Bake in a hot oven 45 min., or until done.
4. Break the skins to let the steam escape and serve at once. If baked potatoes stand they become soggy.

STUFFED POTATOES.

6 medium-sized potatoes baked.
2 tbsp. butter.
½ tsp. salt.
4 tbsp. hot milk.

1. Cut a slice from the side of the potato and scoop out the inside.
2. Mash, add butter, hot milk, and seasonings.
3. Beat until light and fluffy. A stiffly beaten egg-white may be added.
4. Refill skins and brown in a hot oven.
5. Grated cheese may be added, if desired.

FRANCONIA POTATOES.

1. Wash and pare potatoes and parboil 10 min.
2. Drain and place in pan in which meat is roasting.
3. Bake about 40 min., basting with fat in the pan when basting the meat.

ESCALLOPED POTATOES.

1. Prepare potatoes as for boiling.
2. Cut in ⅛-inch slices.
3. Put in layers in buttered baking-dish; sprinkle with salt and pepper and dredge with flour.
4. Dot over with small pieces of butter.

5. Add hot milk until it may be seen through the top layer.
6. Bake about 1 hr.

ESCALLOPED TOMATOES.

1 can or 1 qt. tomatoes. Pepper. 3 tbsp. butter or
1 tsp. salt. 1 c. soft bread-crumbs. substitute.

1. Mix together ingredients and pour into buttered baking-dish.
2. Cover with buttered crumbs and bake in a hot oven 30–40 min.

ESCALLOPED VEGETABLES.

2 c. cooked vegetables. 1 c. medium white sauce.
1½ c. buttered crumbs.

1. Use cooked potatoes, cabbage, cauliflower, onions, etc.
2. Butter a baking-dish; put in vegetables.
3. Pour over white sauce; cover with buttered crumbs (1 c. crumbs, 1–2 tbsp. butter).
4. Bake in a moderate oven until heated through and crumbs are brown.

BAKED BEANS.

4 c. small white beans. 2 tsp. salt. ¼ tsp. pepper.
¼ lb. fat pork. 2 tbsp. brown sugar. 1 tsp. mustard.
1 tbsp. molasses.

1. Pick over and wash beans.
2. Soak overnight in cold water to which baking-soda has been added (½ tsp. to 1 qt.).
3. Drain; add fresh boiling water and cook below boiling-point until skins wrinkle when beans are exposed to the air. Drain.
4. Scald and scrape the rind of the pork.
5. Place thin slice of pork in bottom of crock; turn in the beans; put remaining pork on the top of the beans.
6. Mix molasses, sugar, and seasonings with 1 c. of boiling water; pour over beans; add enough boiling water to cover beans.
7. Cover; bake in a slow oven 6–8 hr.; uncover last hour to brown the top.

Note.—Add water as needed during cooking, or add stewed and strained tomatoes or tomato catsup during last hour of cooking.

SPINACH.

1. Remove roots and coarse stems from spinach.
2. Pick over; wash thoroughly in several waters.
3. Shake from the water; put into kettle over low heat, until water is extracted.
4. Cook until soft; stir frequently to prevent burning. Drain off any surplus water.
5. Chop leaves very fine; add butter, salt, and pepper.
6. Pile in hot serving-dish; garnish with hard-cooked eggs.

Note.—Beet greens (leaves and tender stems) and leaves of Swiss chard may be cooked in same way.

BAKED SQUASH.

1. Cut squash in halves or in 4-inch squares; remove seeds and stringy fibres.

2. Place in dripping-pan with the soft part up (a little water may be added); cover; bake in a hot oven, until soft, 1–1½ hr.

3. Scrape from shell; mash, season with butter, pepper, and salt.

NOTE.—Hubbard squash may be steamed if desired.

STEAMED VEGETABLE MARROW.

1. Cut marrow in slices 1 inch thick, then in pieces for serving; remove skin.

2. Place on plate in steamer; cover with cheese-cloth.

3. Steam until tender, about 20–30 min.

4. Lift out carefully; serve with butter, pepper, and salt, or vegetable sauce made with the water which has collected.

Method I.

ASPARAGUS.

1. Cut off the woody portion and scale the lower part of the stalks.

2. Wash well and tie in bunches.

3. Stand on end in a tall saucepan.

4. Add boiling water to come up to the tender part of the stalks (about 2 cups). Since cover cannot be put on, evaporation is greater.

5. Cook in this position until the butts begin to be tender—about 15–20 min. Then lay bunch flat and cook 10–15 min. longer.

Method II.

1. Cut off the woody portion and scale the lower part of the stalks.

2. Wash well and cut off butts.

3. Put butts in saucepan and cook separately in a small amount of water for about 15–20 min., after which the tips may be added and cooking continued for 10–15 min. longer.

CABBAGE.*

1. Quarter a head of cabbage.

2. Soak for half an hour in salted water to draw out any insects.

3. Cut the cabbage into thin slices and put into boiling, salted water.

4. Boil uncovered until tender (7–9 min.).

5. Drain and season with butter or white sauce.

NOTE.—Green cabbage will cook if cut fine and boiled for 5–7 min.

BRUSSELS SPROUTS.

1. Take off outside leaves.

2. Soak for half an hour in salted water.

3. Cook in large quantity of water with lid off for 9–10 min.

CAULIFLOWER.*

1. Take off all outside leaves.

2. Soak, head down, in salted water for half an hour. Sections may be separated if desired.

3. Boil in large quantity of water with the lid off for 8–10 min.

ONIONS.

1. Peel. Cook whole.

2. Boil in large quantity of water with the lid off for 40–45 min. If mild flavour is desired, change water after the first 10 min. boiling.

**See* page 121 of the Journal of Home Economics, February, 1928.

HARVARD BEETS.

1. Wash twelve small beets.
2. Cook in boiling water until soft. (In preparing beets, remember to leave at least 1 inch of the stem on the beets, otherwise they will bleed and be most unappetizing when cooked. Young beets may be prepared and cooked in a small amount of water which should all be evaporated when the beets are cooked.)
3. Remove skins, and cut beets in thin slices, small cubes or fancy shapes.
4. Mix ½ c. sugar and ½ tbsp. corn-starch.
5. Add ½ cup vinegar and let boil 5 min.
6. Add beets and let stand on back of range for 20–30 min.
7. Just before serving, add 2 tbsp. butter.

SALADS.

The term "salad" covers a great variety of foods, from the simple salad of lettuce to the complicated dish that is a whole meal in itself. The salad may be an appetizer, a dessert, or the main dish. All good salads have three points in common—they must be served cold, they must be attractive in appearance, and they must be pleasing in flavour.

There are four different types of salad:—

1. *The Green Salad.*—This salad is especially rich in minerals, vitamins, and cellulose. It is made of lettuce or other salad greens, such as cabbage, celery, endive, cress, tender dandelion-leaves, or tomatoes.

2. *The Fruit Salad.*—This is also rich in minerals, vitamins, and cellulose. Fresh or cooked fruits, and even dried fruits, may be used. The fruit salad may be served either as an appetizer or as a dessert. In the latter case, Fruit-salad Dressing (page 76) should be used.

3. *The Starchy Salad.*—This includes salads made of potatoes, macaroni, rice, peas, and beans.

4. *The Protein Salad.*—This salad is made of eggs, meat, fish, cheese, or gelatine.

Most of our salads are a combination of these types. Lettuce is generally used in every type, but shredded cabbage may be substituted for it when lettuce is out of season.

There are three kinds of lettuce—leaf, head, and iceberg lettuce. This last type is a head-lettuce which has a very tightly curled centre.

Leaf-lettuce should be broken apart and well washed. Head-lettuce should be immersed upside down in very cold water. This treatment opens and crisps the leaves and the sand and small insects float out. The iceberg lettuce should have the core cut out, and then be held under running water or rinsed up and down in a bowl of water. As this is being done, the head of lettuce should be held in the two hands, the thumbs gently forcing the leaves apart. If the leaves are not perfect, it is better to shred them before using them as a garnish. To do this, several leaves should be rolled together and cut in thin threads with scissors or a sharp paring-knife.

HINTS ON THE PREPARATION OF SALADS.

1. Have salad greens clean, crisp, and chilled.
2. Cut the foods into small, uniform pieces, using a board and a sharp knife.

3. To dice cooked vegetables, such as beets or potatoes, cut off a slice ¼ inch thick, place on a board, and cut in strips ¼ inch thick, and then, without moving, cut across in ¼-inch widths.

4. For speed, use a chopping-bowl and chopper or a grater. Vegetable-graters shred the raw vegetables and are easy to use and easy to clean.

5. If parsley is used, remove stems and chop fine.

6. To shred cabbage, cut the cabbage in half, and after removing the core shave off thin slices from the cut surface.

7. To marinate salads, sprinkle with French dressing and chill for half an hour.

8. In mixing salad ingredients, handle them lightly so that pieces will not be crushed.

9. In arranging salads, remember that simple salads are most attractive. Do not overgarnish or overload the plate or salad-bowl.

10. Use garnishes that can be eaten. Any of the salad greens mentioned above may be used. Paprika added to potato salad will add colour. Chopped pimento, egg-yolk—hard-cooked and pressed through a sieve—grated cheese, sliced oranges, or apples chopped with the red skins on will add colour to salads.

11. In making individual salads, arrange the lettuce so that there is a border of the plate showing all around it. Never have the lettuce-leaf hanging over the edge of the plate. A flat arrangement of ingredients is much less interesting than one that is lightly piled towards a peak.

12. Place salad dressing attractively. Do not dab it on in several places. When placed on the top or tucked in a hollow in the lettuce-leaf, it adds to the attractiveness of the salad.

SALAD DRESSINGS.

BOILED SALAD DRESSING.

½ tsp. salt.	¼ c. sugar.	1 tbsp. butter.
1 tsp. mustard.	3 tbsp. flour.	1 c. milk or water.
f.g. cayenne.	1 egg or 2 yolks.	⅔ c. vinegar.

1. Mix dry ingredients in upper part of a double-boiler.
2. Add eggs, well beaten, and milk.
3. Add vinegar slowly.
4. Cook over boiling water, stirring constantly, until thick.
5. Remove from heat; add butter; strain and cool.

NOTE.—If milder dressing is desired, use 1 tbsp. less vinegar.

FRENCH DRESSING.

1 tsp. salt.	4 tbsp. vinegar or	4 tbsp. salad-oil.
¼ tsp. pepper.	lemon-juice.	¼ tsp. paprika.

1. Combine ingredients; shake in a bottle or stir until well blended.

MAYONNAISE DRESSING, I.

½ tsp. mustard.	f.g. cayenne.	2 tbsp. vinegar.
1 tsp. salt.	1 egg-yolk.	1 c. salad-oil.
1 tsp. powdered sugar.	2 tbsp. lemon-juice.	

1. Mix dry ingredients.
2. Add yolk of egg; beat thoroughly, using a Dover beater.

3. Add 1 tsp. of oil; beat thoroughly; add 1 tsp. of lemon-juice or vinegar.
4. Continue until all the acid is used and about half the oil.
5. Add the remaining oil in larger quantities.

NOTE.—(1.) Ingredients should be cold. (2.) If the dressing curdles, add it gradually to a beaten yolk of egg. Beat with a Dover beater until smooth and thick. (3.) Whipped cream may be added just before serving. (4.) One whole egg may be used with 1½ c. of oil.

MAYONNAISE DRESSING, II.

1 egg.	2 tsp. dry mustard.	¾ c. salad-oil.
2 tbsp. sugar.	⅛ tsp. paprika.	1 c. water.
1½ tsp. salt.	¼ c. vinegar.	4 tbsp. corn-starch.

1. Put egg, sugar, seasoning, vinegar, and oil in mixing-bowl, *but do not stir.*
2. Make a paste by mixing the corn-starch with ½ c. water.
3. Add additional ½ c. water and cook over a slow fire, stirring constantly until it boils and clears up.
4. Add hot corn-starch mixture to ingredients in mixing-bowl and beat briskly with Dover egg-beater. Cool before serving.

Variations.

THOUSAND ISLAND DRESSING.

1 c. mayonnaise dressing.
2 tbsp. chili sauce.
2 tbsp. catsup.
2 tbsp. chopped gherkins or olives.
2 tbsp. finely chopped pimento.
2 eggs, hard-cooked and cut in small pieces.
½ c. cream, whipped.

1. Combine all ingredients except cream. Chill and add whipped cream just before serving.

SALAD DRESSING (NO COOKING).

2 eggs (beaten until light).
2 tsp. salt.
2 tsp. mustard.
1 c. vinegar.
2 tsp. butter (melted).
f.g. red pepper or paprika.
1 can Borden's Eagle Brand Condensed Milk.

1. Beat the first four ingredients vigorously for a few min.
2. Add the vinegar; stir well.
3. Add melted butter and red pepper.
4. Set aside for a few hours to thicken.

NOTE.—This dressing will keep for weeks.

FRUIT-SALAD DRESSING.

Juice of 1 lemon.
½ c. pineapple-syrup.
1 tbsp. corn-starch.
Pinch of salt.
1 egg-yolk.
¼ c. sugar.
1 egg-white.

1. In the top of the double-boiler, put the lemon-juice, pineapple-juice, corn-starch, and salt, and mix well.
2. Cook over hot water, stirring all the time until it thickens. Cook 5 min. longer.
3. Mix egg-yolk and sugar, and add hot mixture.
4. Cook 3 min. longer.
5. Beat egg-white stiff and fold into hot mixture. Cool by replacing the hot water in the lower part of the double-boiler with cold water.

6. Place in the refrigerator to chill.

Variation.—½ c. of whipped cream may be used in place of the egg-white. Fold the whipped cream in just before serving.

POTATO SALAD.

3 c. cold, boiled potatoes.
1 slice onion, chopped finely.
4 tbsp. parsley, finely chopped.
4 tbsp. sweet pickles, *or*
4 tbsp. cucumber, diced.
1 c. celery, diced.
2 hard-cooked eggs.
½ c. salad dressing.
Lettuce.

SALAD SUGGESTIONS.

Mayonnaise or boiled dressing may be used with the following:—

1. *Waldorf Salad.*—1 c. apples, 1 c. celery, topped with finely chopped nuts. When nuts are added to the salad they cause the apples to darken.
2. Shredded cabbage, diced pineapple, and green pepper.
3. Shredded cabbage, diced celery, grated carrot, and a very little onion.
4. Lettuce, ripe tomatoes, sliced cucumber, hard-cooked egg.
5. Apple, banana, celery, and pimento.
6. Bananas rolled in chopped nuts.
7. 1 c. banana, 1 c. pineapple, ½ c. cherries.
8. 2 c. salmon or tuna fish, 1 c. celery (chopped finely), ½ doz. sour pickles.
9. 2 c. diced, cooked beets, 1 c. celery or shredded cabbage, ½ c. horse-radish.
10. Canned pears or peaches cut in halves with shredded almonds or cream-cheese balls.
11. Ripe tomatoes stuffed with chopped apple, celery, and cucumber.

French Dressing may be used with the following combinations:—

1. Sliced tomatoes, green peppers, celery, and cucumber.
2. Green peppers stuffed with cream cheese, sliced crosswise, served on lettuce.
3. Cooked asparagus stalks and pimento strips.
4. Equal parts of orange and grapefruit sections.
5. Dates stuffed with cream cheese and nuts.
6. Whole string beans, sliced radishes, and pimentoes.

CURLED CELERY.

1. Cut the celery-stalk into 2½-inch strips.
2. Slash from each end of the strip to within ½ inch of the centre.
3. Place in cold salted water to curl—about ½ hour.

PERFECTION SALAD.

1 tbsp. granulated gelatine.
¼ c. water.
¼ c. vinegar.
Juice of ½ lemon.
¼ c. sugar.
½ tsp. salt.
1 c. boiling water.
1 c. diced celery.
½ c. shredded cabbage.
¼ c. pimentoes.

1. Soften gelatine in cold water.
2. Mix vinegar, boiling water, lemon-juice, salt, and sugar.

3. Bring to a boil and add the softened gelatine.

4. When mixture begins to thicken add the celery, cabbage, and pimentoes.

5. Chill and serve with mayonnaise dressing.

RADISH ROSES.

1. Cut the skin of the radish into 6–8 sections to within ¼ inch of the stem.

2. Separate skin from the centre; place in cold water to curl.

QUESTIONS—VEGETABLES AND SALADS.

1. What reasons can you give for serving raw vegetables frequently?

2. What reasons would you give in convincing an adult that he should eat vegetables?

3. Give two methods of cooking vegetables so that the minerals may be retained.

4. Can you justify for yourself the practice of going to school without breakfast?

5. Why do doctors often recommend canned tomatoes instead of orange-juice for babies and young children?

6. Such vegetables and fruits as cabbage and prunes were once looked down upon. Why are they now considered important foods?

7. What foods give you adequate vitamins?

8. What care should be taken in making and serving salads?

9. When a can of vegetables is opened, should the liquid be thrown away? What would you do with it?

10. In preparing potatoes, the peelings should be very thin. Why?

11. What vegetables contain a high percentage of carbohydrate?

12. What class of vegetables is especially valuable for minerals and vitamins?

13. Give in detail the method of cooking cabbage.

14. Cauliflower sometimes becomes brownish in colour. Explain the reason.

15. How should strong-flavoured vegetables be cooked?

16. How should mild-flavoured vegetables be cooked?

17. Give the points to be observed in selecting the following: Head-lettuce, leaf-lettuce, celery, cabbage, tomatoes, green corn, green peas.

18. What foodstuffs are found in the potato?

19. Should peeled potatoes be soaked? Why?

20. In cooking potatoes, which are the best methods to use? Why?

21. How may baked potatoes be kept from getting soggy?

22. One green and one starchy vegetable makes a good selection in planning menus. Why?

23. Why are vegetables laxative?

24. Name several vegetables especially rich in iron.

25. What vitamins are found in vegetables?

26. Do vegetables yield a high energy return?

27. Why is it best to eat one raw vegetable each day?

28. Why may we say "Vegetables are good health assurance"?

29. Why do we advise eating the skins of baked potatoes?

EGGS.

Eggs are rich in protein, minerals, and vitamins, all of which substances are needed in the growth and repair of muscle, bone, and blood. Because of their value in the building and repairing of tissue, eggs should be included in the diet of growing boys and girls and of convalescents and undernourished persons.

Eggs lack carbohydrate. Consequently, eggs are usually served in combination with carbohydrate foods such as bread or potatoes.

The greater part of the nutrients for which the egg is prized are in the yolk. All the fat and practically all the vitamins, phosphorus, calcium, and iron are in the yolk. The white of the egg is approximately one-eighth protein and seven-eighths water. The yolk of the egg is approximately one-third fat, one-sixth protein, and one-half water.

The protein found in egg is a protein of good quality. The protein in the white is called albumen; that in the yolk is chiefly vitellin.

Eggs resemble milk more nearly than does any other food. Milk is a richer source of calcium than are eggs, but eggs are a richer source of iron.

General Rules for Cooking.

1. When you poach an egg you notice that the egg becomes firm when cooked. Heat appears to change the egg from a liquid to a solid substance. The reason why an egg changes in this way as it heats is that it contains proteins. These proteins coagulate when heated. This change is completed below boiling-point. Boiling temperature toughens the protein of the egg and makes it less easy to digest.

2. If eggs have come out of the refrigerator and are very cold it will require a longer time to cook them.

3. Yolks when beaten are thick and lighter-coloured than before beating. Whites are beaten when the beater comes out clean. They are beaten dry when the gloss is gone and the beaten mixture comes off the beater easily.

Uses of Eggs in Cookery.

1. As a valuable food.

2. As a thickening agent for such foods as custards, sauces, and fillings for pies.

3. As a means of incorporating air in omelets, soufflés, and sponge cakes. Eggs have the property of holding air when beaten and are used to lighten a mixture. Slow cooking is necessary when eggs are used in this way.

4. To improve flavour and texture in muffins, cakes, cookies, and other mixtures.

5. As a coating agent—as in preparing food for deep-fat frying. The food, such as croquettes and potato-balls, is rolled in egg and crumbs. This method prevents the food from absorbing an excess amount of fat.

Care of Eggs.

1. Eggs should be kept in a cool, dry place.

2. Eggs should be washed just before using; eggs for storing in water-glass should never be washed.

3. Since egg-shells are porous, eggs absorb odours readily and should never be kept where there are foods with strong odours.

4. An unbroken egg-yolk will not harden when covered with clean, cold water kept in a cool place. White of egg may be kept covered in a cool place.

5. Break eggs separately into a dish to make sure they are fresh before adding to other eggs or to a mixture. Strike the egg against the side of the mixing-bowl and then open with the thumbs. Or hold the egg in the left hand and strike it with a knife-blade. Press the thumbs into the crack and pull the shell apart.

Tests for Freshness.

1. Fresh eggs have slightly rough shells.

2. Fresh eggs sink to the bottom in cold water. Stale eggs float, due to the large air-space.

3. Fresh eggs are clear when placed between the eye and a bright light in a dark room. Stale eggs are cloudy. This method of testing is used extensively in egg markets and is called "candling."

Home Storage.

Protein foods spoil more readily than any other class of foods. They contain or come in contact in the air with certain bacteria which cause decomposition. Egg-shells are porous and air enters into the shell as the water evaporates out of the egg. Any method which will exclude air will help keep eggs fresh. Only fresh, clean eggs, obtained in the spring and early summer when eggs are plentiful and the price low, should be preserved. Non-fertile eggs are preferable for storing.

The packing or preserving material and containers for eggs must be absolutely clean, since eggs are easily tainted in flavour. Eggs may be preserved in the following ways:—

1. Pack dry in sawdust, salt, bran, oats, or sand, with small end down.
2. Put in containers with enough water-glass to cover the eggs.
3. Coat with paraffin.
4. Put in cold storage.

Method I. SOFT-COOKED EGGS.

1. Boil water—1 pt. for 1 or 2 eggs; ½ c. extra for each additional egg.
2. Set back where water will keep hot; put in eggs and cover.
3. Let stand 4–6 min. for 1 or 2 eggs; 5–8 min. for several.

Method II.

1. Place eggs in cold water in a saucepan, 1 pt. for 1 or 2 eggs; ½ c. extra for each additional egg.
2. Bring the water slowly to boiling-point.
3. Remove *at once* and serve.

Method I. HARD-COOKED EGGS.

1. Boil water—1 pt. for 1 or 2 eggs; 1 c. extra for each additional egg.
2. Put in eggs; cover; set back and let stand where water will keep hot, 30 min. Plunge immediately into cold water.

Method II.

1. Put eggs into cold water; heat slowly to boiling-point.
2. Set back where water will keep hot; let stand for 20 min.

NOTE.—When hard-cooked eggs are to be used for garnishing, they should be plunged into cold water after cooking.

POACHED EGGS.

1. Have boiling salted water in a shallow pan (at least 1½ inches deep).
2. Break egg into saucer; carefully slip the egg into the water. A muffin-ring will help to hold shape.
3. Cover; set back where water will keep hot, but not boil.
4. Cook until white is firm and a film has formed over yolk.
5. Lift up with a skimmer; drain; serve on toast. Sprinkle with paprika and garnish with parsley.

CREAMY EGG.

3 eggs.	f.g. pepper.
3 tsp. butter.	⅔ c. milk.
¾ tsp. salt.	Toast.

1. Beat eggs slightly; add butter, seasonings, and milk.
2. Cook over hot water.
3. As the mixture coagulates around the sides and bottom, draw it away with the spoon. Continue until all of the mixture is cooked.
4. Serve on toast; garnish with parsley.

NOTE.—When properly cooked, this mixture should have the appearance of a firm custard, broken up. It should not be stirred continuously nor cooked too long.

CREAMED EGGS.

5 hard-cooked eggs.	1¾ c. medium white sauce.
1 c. cooked macaroni.	¾ c. bread-crumbs.
½ c. grated cheese.	Salt and pepper.

1. Cut eggs into slices; make white sauce; add grated cheese and heat until melted.
2. Add macaroni, eggs, and seasonings to sauce.
3. Pour into buttered dish and cover with buttered crumbs.
4. Brown in a hot oven.

NOTE.—Macaroni and cheese may be omitted if desired.

FOAMY OMELET.

4 eggs.	4 tbsp. milk.
½ tsp. salt.	2 tsp. butter.
f.g. pepper.	

1. Beat yolks of eggs; add seasonings and milk.
2. Beat whites until stiff, but not dry.
3. Heat an omelet-pan; put in butter; have sides and bottom of pan well buttered.
4. Cut and fold whites into yolk mixture.
5. Have pan very hot; turn in the omelet; spread evenly and reduce heat.
6. Cook slowly until omelet is set; place in moderate oven to dry slightly on top.
7. Fold; turn out; garnish and serve at once.

NOTE.—Finely chopped parsley may be folded into the mixture.

Variations.

I. CHEESE OMELET.

1. Make plain Foamy Omelet.
2. When cooked, sprinkle with grated cheese.
3. Fold, turn out, garnish, and serve.

II. TOMATO OMELET.

1. Make plain Foamy Omelet.
2. When cooked, place canned tomatoes, drained of liquid, over top.
3. Fold, turn out, garnish, and serve.

CREAM SAUCE OMELET.

1 tbsp. flour.
¼ tsp. salt.
f.g. pepper.
1 tbsp. butter.
½ c. milk.
2 eggs.
2 tsp. butter.

1. Cook first five ingredients as for White Sauce.
2. Cool. Add beaten yolks of eggs.
3. Finish as for Foamy Omelet.

QUESTIONS.

1. What foodstuffs are found in eggs?
2. Which foodstuff is lacking in eggs? What can we serve with eggs to make up this deficiency?
3. Which mineral is high in the yolk of the egg?
4. Which foodstuff *chiefly* is contained in the white of egg?
5. What is meant by saying that eggs contain a " complete " protein or a protein of good quality?
6. What is the protein of egg-white called?
7. Which other common food closely resembles an egg in composition and value?
8. What change takes place in the protein of the egg when it is cooked? At what temperature does this take place?
9. What effect has a high temperature on the protein of an egg?
10. What are the five chief uses of eggs in cooking?
11. Why are eggs especially good for children and invalids?
12. At what temperature will an egg cook?
13. What care should be given eggs in the home?
14. Why is egg-white added to coffee? Explain what happens.
15. What tests have we for freshness in eggs?
16. What common methods of storing eggs have we?
17. What food may eggs replace in a meal?
18. What is wrong with the statement, " Boil an egg for 3 min."?

CHEESE.

Cheese is a very concentrated food, particularly rich in protein and fat and mineral salts. Cheese should be eaten in small quantities to avoid danger of irritation of the stomach. It provides an inexpensive substitute for meats and fish.

Because of its large protein content, cheese must be cooked at a low temperature, being heated only to the point of melting. Extreme heat toughens the protein and makes it less easy of digestion.

CHEESE SAUCE ON TOAST.

1 c. medium white sauce.
⅓ c. grated cheese.
f.g. paprika.

1. Make white sauce.
2. Add cheese; stir until melted.
3. Pour over toast or crackers.

MACARONI AND CHEESE.

1 c. macaroni.
2 c. medium white sauce.
1 c. grated cheese.
½ c. buttered crumbs.

1. Break macaroni into 1-inch pieces; wash.
2. Cook in large quantity of boiling, salted water till tender.
3. Drain; pour cold water through.
4. Make white sauce; add macaroni and cheese; heat until cheese is melted.
5. Turn into buttered baking-dish.
6. Cover with buttered crumbs.
7. Brown in oven.

Variation.

Rice may be substituted for macaroni. Canned tomatoes may be substituted for milk, and cheese added only if desired. Canned tomato soup may also be used.

BUTTERED CRUMBS.

1 c. crumbs.
1 tbsp. melted butter.

Mix thoroughly, stirring with a fork.

CHEESE SOUFFLÉ.

3 tbsp. flour.
½ tsp. salt.
Cayenne.
3 tbsp. butter.
½ c. milk.
3 eggs.
½ c. grated cheese.

1. Make thick white sauce of the first five ingredients.
2. Remove from heat; add yolks of eggs, well beaten; add cheese.
3. Fold in whites beaten until stiff.
4. Turn into buttered baking-dish; bake in a pan of water in a slow oven 40–45 min.

Note.—Test by using a knife. When the knife comes out clean the soufflé is cooked.

WELSH RAREBIT.

1¼ c. grated cheese.
½–1 tsp. mustard.
½ tsp. salt.
Cayenne.
2 tsp. butter.
¼ c. top milk.
1 egg.
Dry toast or crackers.

1. Place cheese in double boiler.
2. Mix seasonings; sprinkle over cheese.
3. Add butter in pieces; add milk.
4. When cheese begins to melt, stir until completely melted.
5. Add well-beaten egg; stir and cook a moment longer; too long cooking will cause curdling.
6. Serve at once, on crackers or toast.

RICE AND CHEESE MOULD.

1½ c. shredded carrot (parboiled 5 min.).
1 tbsp. chopped onion.
1 c. grated cheese.
1 c. cooked rice.
½ tsp. salt.
1 well-beaten egg.
Paprika.

1. Turn into a buttered ring.
2. Bake at 350° F. for 30 min. in a pan of hot water.
3. Unmould on a platter and fill with cooked peas seasoned.

QUESTIONS.

1. Why is cheese called a " meat substitute "?
2. Why should cheese be eaten in small quantities?
3. Why should cheese dishes be cooked at a low temperature?
4. How does the cooking of cheese dishes affect the digestion of them?
5. From what is macaroni made? Explain. Name two other foods similar to macaroni.
6. What do we mean when we say cheese is a " concentrated " food?
7. What care would you give cheese in the home?
8. What is the difference between a cheese sauce and a Welsh Rarebit?
9. What other valuable foodstuffs besides protein are contained in cheese?
10. What class of foods do we usually combine with cheese? Why?
11. Is cheese a good article of diet for staple use? Why?
12. Is the common impression that cheese is indigestible correct?
13. From what is cheese made? Name three kinds.
14. Why should a cheese sauce be made in a double boiler?

CLASSIFICATION OF OVEN TEMPERATURES.

Slow.		Moderate.		Hot.		Very Hot.	
250°–325° F.	Time.	325°–375° F.	Time.	375°–450° F.	Time.	450°–550° F.	Time.
Custards, 325° F.		Gingerbread, 350° F.	35 min.	Rolls, 400° F.	15 min.	*Pastry.*	
Cheese dishes, 325° F.		Cookies (rolled), 375° F.	10–15 min.	B.P. Biscuits, 425°–450° F.	12–15 min.		
Soufflés, 325° F.	1 hr.	Ginger Snaps, 375° F.	7 min.	Muffins, 400° F.	25 min.	Shell, 500° F.	12 min.
Meringues, 300° F.	15–20 min.	Layer Cake, 375° F.	20 min.	Bread, 425° F.	15 min.	Double crust, 450° F.	40 min.
Angel Food, 320° F.	1 hr.	Loaf Cake, 350°–360° F.	45 min.	And reduced to 375° F.	35–45 min.		
Sponge Cake, 320° F.	1 hr.	Cup Cakes, 375° F.	12–15 min.				
Christmas Cake, 250°–300° F.	3–4 hr.						

Simple Home Tests.

1. A moderate oven turns a piece of unglazed paper a *golden* brown in 5 min.
2. A hot oven turns a piece of unglazed paper a *dark* brown in 5 min.

FLOUR MIXTURES.

Wheat.

Canada is one of the greatest wheat-producing countries in the world, so that most Canadian children are familiar with the story of wheat. The Prairie Provinces are noted for wheat-growing. United States, Argentina, and Russia are also wheat-producing countries.

In early spring the farmer ploughs his land and plants the grain with the aid of a seeder. Soon the little shoots appear, and these grow until the field is a mass of green, waving heads, which are turned into a sea of yellow by the sun. Then the busy time begins. The grain is cut and stooked, and the huge threshing-machine is brought into the field and the task of separating the straw from the grain begins. The straw pours out of the machine until it forms a hill. Usually this straw is burned. The grain is taken to the elevators and stored until it is milled. On some of the larger farms a combination cutting and threshing outfit is used.

" Winter " wheat is sown in the autumn in regions where the winter is not severe, and it matures early in the summer. Winter wheat is usually softer and somewhat more starchy than spring wheat; the " spring " wheat is harder and richer in protein.

The wheat-kernel is actually composed of several layers. (A picture can be secured from any reliable milling company.) First we have the *bran* on the outside; the *aleurone layer*; the *endosperm* (82 per cent. of the entire grain), which is made up chiefly of starch-cells, but also contains the protein; and then the *germ* from which the plant grows. The bran obtained from milling may contain not only the bran proper, but also the germ and more or less of the aleurone layer, depending upon the processes employed.

The protein of wheat is called " gluten " and it has a very elastic power.

Bread-flour is rich in gluten and has a yellowish colour. It will not stick together when pressed in the hand, but because of the elastic quality of its gluten it produces bread of a very light texture. It is manufactured from " hard spring wheat."

Pastry-flour has less gluten and more starch than bread-flour. It is whiter in colour and sticks together when pressed in the hand. Pastry-flour is manufactured from " soft wheat."

Graham flour contains the whole grain, including the germ. It received its name from Dr. Graham, who first advised the use of the whole grain, so as to maintain a better standard of health. The bran and the germ are rich in vitamins and minerals, especially iron.

Whole-wheat flour is made of the whole grain minus the germ. Whole-wheat flour will keep longer than Graham flour. The fat which is present in the germ spoils. Graham flour should always be purchased in small quantities.

(For methods of milling *see* " Food Products," by Sherman.)

Batters and Doughs.

Flour mixtures, before cooking, may be divided into batters and doughs, the consistency depending upon the proportion of liquid to dry ingredients.

	Liquid.	Flour.
1. Thin or pour batters; e.g., pop-overs or griddle cakes	1 c.	1 c.
2. Thick or drop batters; e.g., muffins	1 c.	2 c.
NOTE.—A cake mixture comes between a pour and a drop batter. A drop cookie mixture comes between a drop batter and a soft dough.		
3. Soft doughs; e.g., tea biscuit, bread	1 c.	3 c.
4. Stiff doughs; e.g., pastry, rolled cookies	1 c.	4 c.

NOTES.—(1.) In recipes for cakes and pastries, the proportions given are for pastry-flour. (2.) If bread-flour is used, substitute ⅞ c. for 1 c. pastry-flour.

LEAVENING AGENTS.

A leavening agent, sometimes called "leaven," is used to make foods light. There are three in common use—carbon dioxide gas, steam, and air. Most frequently, we rely on *carbon dioxide*, and it can be produced in a number of ways:—

1. *From Baking-powder.*—The most common source of carbon dioxide is baking-powder. It is a mixture of (1) baking-soda—an alkali; (2) an acid salt; and (3) starch. When the baking-soda and acid materials are moistened, carbon-dioxide gas is given off. If the soda and acid are not only moistened, but heated, the gas is formed more quickly. Corn-starch is added to the mixture of soda and acid salt merely to prevent action should any moisture be present. It is wise to see that the baking-powder tin is always covered with a tight lid.

The difference in baking-powders is largely due to the different acid salt used. In tartrate baking-powders, cream of tartar or tartaric acid is used as the acid salt. This is made from grapes, and as it is the most expensive acid salt used, tartrate baking-powders are the most expensive. Calcium-acid-phosphate is the second most commonly used acid salt, and then we have sodium-aluminum-sulphate, which is the cheapest salt and provides the cheapest baking-powder. The latter acts more slowly and requires only from 1-1½ tsp. per cup of flour.

2. *From Soda and Sour Milk.*—When soda is added to sour milk we again get carbon-dioxide gas given off, the lactic acid in the sour milk having the same effect as the acids mentioned above.

3. *From Soda and Molasses.*—The ordinary molasses used in baking has sufficient acid to form carbon-dioxide gas when baking-soda is mixed with it.

4. *Yeast.*—Carbon dioxide was probably first obtained from yeast in the making of bread. Yeast is a microscopic plant that grows readily under favourable conditions. Sugar is a food for yeast and from it, in the process of its use by these tiny plants, carbon dioxide, which makes the dough light, is produced.

Steam.—Steam is quite effective in leavening batters. In pop-overs and cream puffs, steam is practically the only leavening agent used. During the cooking, part of the moisture is vaporized. The vaporization results in the expansion of the mixture and the product becomes lighter.

Air.—Air as a leavening agent is usually incorporated by means of beaten egg-whites. Air added by this method is the chief leavening agent in omelets, soufflés, sponge cakes, and angel cakes.

USE OF LEAVENING AGENTS.

1. Use 2 tsp. baking-powder to 1 c. flour.
2. After the first egg, reduce the baking-powder by ½ tsp. for each egg.
3. If baking-soda and sour milk are used, use ½ tsp. soda to 1 c. sour milk, and in addition use 1 tsp. baking-powder for each cup of flour.
4. If baking-soda and molasses are used, use ½ tsp. soda to 1 c. molasses.
5. If baking-soda and cream of tartar are used, use ½ tsp. soda with 1 tsp. cream of tartar to 1 c. flour.

GENERAL RULES FOR BATTERS (MUFFIN METHOD).

1. See to oven.
2. Prepare pans.
3. Sift flour *once* before measuring; then add baking-powder, sugar, and salt, and sift again.
4. Beat egg.
5. Make a depression in the flour, pour in egg, milk, then melted fat.
6. Stir as little as possible in mixing; turn into well-greased pans.
7. Bake in a hot oven.

NOTE.—In making muffins the cake method may be used. It gives a finer grain, but takes longer to prepare.

GRIDDLE CAKES (SWEET MILK).

2½ c. flour.
4½ tsp. baking-powder.
¼ tsp. sugar.
2 c. milk.
1 egg.
2 tbsp. melted fat.
1 tsp. salt.

Mix according to Muffin Method.

GRIDDLE CAKES (SOUR MILK).

2 c. flour.
2 tsp. baking-powder.
½ tsp. baking-soda.
½ tsp. salt.
2 tbsp. sugar.
2 c. stale bread-crumbs.
1 egg.
1¼ c. sour milk.
1½ tbsp. butter melted.

Mix according to Muffin Method.

POP-OVERS.

2 c. flour.
2 c. milk.
2 eggs.
½ tsp. salt.
2 tsp. melted fat.

1. Beat the eggs slightly.
2. Sift flour and salt and add alternately with milk.
3. Add the melted fat.
4. Beat with egg-beater until smooth and full of bubbles.
5. Fill hot, greased pans two-thirds full.
6. Bake 30 min. at 450° F. and 15 min. at 350° F.

This makes nine pop-overs.

WAFFLES.

2 c. flour.
3 tsp. baking-powder.
½ tsp. salt.
2 tsp. sugar.
1⅔ c. milk.
2 eggs.
1½ tsp. butter melted.

Mix according to Muffin Method.

MUFFINS.

2 c. flour.
4 tsp. baking-powder.
2 tbsp. sugar.
½ tsp. salt.
1 egg.
2 tbsp. melted fat.
1 c. milk.

Mix according to Muffin Method or Cake Method.

Variations.

BLUEBERRY MUFFINS.

Add ⅓ c. sugar.
4 tbsp. of fat.
½ c. blueberries.

Mix the same as for plain muffins. For blueberry muffins use a little less milk, since the juice of the berries adds moisture.

RICHER MUFFINS.

Use double the amount of fat and sugar used in standard recipe.

DATE MUFFINS.

Use double the amount of fat and sugar and add:—
¼ lb. dates cut fine.
1 additional tsp. baking-powder.

CORN-MEAL MUFFINS.

1⅓ c. flour.
⅔ c. corn-meal.
4 tsp. baking-powder.
4 tbsp. sugar.
½ tsp. salt.
1 egg.
1⅓ c. milk.
4–6 tbsp. fat.

Mix according to Muffin Method or Cake Method. Sour milk may be substituted for sweet milk provided other alterations are made.

GRAHAM MUFFINS.

1 c. Graham flour.
1 c. white flour.
4 tsp. baking-powder.
½ tsp. salt.
3 tbsp. sugar.
1 egg.
1 c. milk.
2 tbsp. fat.

Make as plain muffins.

NOTE.—Dates, figs, or raisins may be added.

BRAN MUFFINS.

1 c. flour.
½ tsp. soda.
2 tsp. baking-powder.
1½ c. bran.
¼ tsp. salt.
½ c. brown sugar.
1 tbsp. butter.
1 c. sour milk.
1 egg.

Mix according to the Muffin Method.

NUT BREAD.

1 c. brown sugar.
2 c. flour (½ c. Graham and 1½ c. white).
1 c. raisins or dates.
½ c. nuts.
1 tsp. baking-soda.
f.g. salt.
2 tbsp. fat.
1 egg.
1 c. sour milk.

Follow general rules for mixing by Muffin Method.

BOSTON BROWN BREAD.

½ c. flour.
1 c. Graham flour.
1 c. corn-meal.
1¼ tsp. baking-soda.
2 c. thick sour milk.
½ c. molasses.
1 tsp. salt.

1. Follow general rules for mixing by Muffin Method.
2. Turn into greased mould; cover tightly.
3. Steam 3 hr.; individual, 1¼ hr.
4. Turn out of mould on baking-pan; place in hot oven for a few minutes to dry the outside.

GINGERBREAD.

1½ c. bread-flour or 1¾ c. pastry-flour.
1½ tsp. soda.
½ tsp. salt.
2 tsp. ginger.
¼ tsp. cloves.
2 tbsp. fat.
1 egg.
½ c. molasses (warmed).
½ c. brown sugar.
½ c. sour milk.

Mix according to Muffin Method, putting soda in with the dry ingredients.

HOT-WATER GINGERBREAD.

1½ c. flour.
¾ tsp. soda.
⅛ tsp. salt.
1½ tsp. ginger.
½ c. brown sugar.
¼ c. fat.
2 eggs.
½ c. molasses.
½ c. boiling water.

Mix according to Muffin Method.

SOFT DOUGHS.

GENERAL RULES.

1. See to oven.
2. Prepare pans.
3. Sift flour once before measuring; add baking-powder and salt.
4. Sift two or three times.
5. Cut shortening in with a knife, or work in with tips of fingers until mixture is fine.
6. Add milk gradually. This should be done with as little mixing as possible.
7. Turn out on *slightly* floured board; roll ¾ in. thick.
8. Cut with floured biscuit-cutter; place on greased or floured pan; bake in a hot oven, 425°–450° F., for 15–20 min.

BAKING-POWDER BISCUITS.

2 c. bread-flour.
4 tsp. baking-powder.
½ tsp. salt.
2–4 tbsp. fat.
⅔ c. milk or water.

Follow the general rules.

Variations.

EMERGENCY BISCUIT.

To make Emergency Biscuit add sufficient liquid to the above so that it may be dropped from a spoon on a greased pan without spreading.

GRAHAM BISCUIT.

One cup of Graham or whole-wheat flour may be substituted for 1 cup of white flour in the above recipe.

CHEESE BISCUITS.

1. To biscuit recipe add ⅔ c. grated cheese; reduce the fat to 1 tbsp. to 2 c. flour.
2. Finish as Baking-powder Biscuits.

FRUIT ROLLS.

1. To biscuit recipe add 2 tbsp. sugar.
2. Roll dough ⅓ inch thick.
3. Mix together 2 tbsp. butter, softened; ⅓ c. brown sugar; ½ tsp. cinnamon; ⅓ c. currants, raisins, or dates, and spread on dough.
4. Shape into a roll; press edges together.
5. Cut in ¾-inch slices.
6. Place in greased baking-pan, close together, with cut surfaces up.
7. Bake in a hot oven 15–20 min. (400° F.).

ORANGE TEA BISCUITS.

1. Make biscuit, using 2 tbsp. fat to 1 c. flour.
2. Place in baking-pan; into the centre of each press a small cube of sugar which has been dipped in the following mixture: 1 tbsp. orange-juice; 1 tsp. lemon-juice; grated rind of ½ orange.
3. Bake as Baking-powder Biscuits.

STRAWBERRY SHORTCAKE.

1. Use biscuit recipe with 4 tbsp. fat and add 1 tbsp. sugar.
2. Mix according to rules and roll into two circles.
3. Put the two layers in a round buttered tin and shape with hand to fit pans; spread butter between layers.
4. Bake in a hot oven (425° F.).
5. Separate layers and place crushed strawberries sweetened to taste between and on top of cakes.
6. Cover with whipped cream if desired.

NOTE.—Other fruits may be used, as peaches, raspberries, bananas, etc.

BAKED APPLE BUNS.

2 c. flour.
4 tsp. baking-powder.
2 tbsp. sugar.
½ tsp. salt.
¼ c. fat.
½–⅔ c. milk.

FILLING.

½ c. boiling water.
8 cooking-apples.
1 c. brown sugar.
1 tsp. cinnamon.
2 tbsp. butter.

1. Quarter, peel, and core apples. Cook in boiling water until tender.
2. Add sugar and butter.
3. Finish as Fruit Rolls.

BREAD.

Yeast is a microscopic plant which, under proper conditions, grows rapidly by budding. Conditions necessary for its growth are:—

1. Proper temperature—75°–80° F.
2. Proper food—carbohydrates (starch or sugar).
3. Moisture.

In the bread-dough the yeast changes the sugar and starch into carbon-dioxide gas and alcohol. The gas expands, and in its effort to escape it stretches the gluten, making the dough two or three times its original size.

NOTE.—For notes on Flour *see* page 86.

Two Kinds of Yeast.

1. Dry.
2. Compressed.

A good yeast-cake is known by its light, even colour. If fresh, it will have no dark spots.

Baking.

Bread is baked for the following reasons:—

1. To kill the yeast-plant.
2. To drive off the alcohol.
3. To burst the starch-cells.
4. To improve the colour and flavour.

Helpful Hints.

1. To keep the dough from cooling, mix and knead it quickly. In cold weather, warm the flour and the mixing-bowl.

2. By using at least one yeast-cake to 1 pt. liquid the bread can be baked within five hours, and it has not time to sour.

3. The baking of the bread should be divided into three equal periods: First, bread should rise and become slightly brown; second, bread should continue to brown; third, bread should become a golden-brown and shrink from the sides of the pan.

4. The oven should be hot for the first period, but the heat should be gradually decreased during the remainder of the baking.

5. When baked, remove loaves from the pans, and set on a rack to allow free circulation of air. When cool, store in a clean, well-ventilated bread-box.

General Rules. BREAD—SOFT DOUGH.

A. To make Sponge.

1. Heat liquid; add salt, sugar, and lard; cool to lukewarm.
2. Add yeast-cake, dissolved in lukewarm water.
3. Add flour (about 1½ c. to 1 c. liquid) to make batter or sponge.
4. Beat thoroughly until bubbles form, to incorporate air and thoroughly mix ingredients.
5. If sponge is set overnight, cover in a warm place (not hot) to rise until foamy.

B. To make Dough.

1. Add flour to the sponge to make a dough just stiff enough to be handled.
2. Turn dough on lightly floured board.
3. Knead to develop the gluten and to distribute evenly the CO_2, adding enough flour to prevent sticking. Continue kneading until the dough will spring back into place when pressed with the finger.
4. Return the dough to the bowl; moisten the top to prevent a crust forming. Cover; set to rise until double in bulk.

C. To shape into Loaves.

1. Turn dough out on lightly floured board.
2. Knead slightly to break up large gas-bubbles.
3. Divide and shape into loaves.
4. Put into greased pans; cover with a damp cloth; set in warm place to rise.
5. When nearly double in bulk, bake in a moderate oven.

Time, 1-lb. loaf, 50–60 min.

PROPORTIONS FOR WHITE BREAD.

(Four 1-lb. Loaves.)

1 qt. liquid (water, milk, or potato-water).
2 tbsp. salt.
1 tbsp. sugar.
1 tbsp. lard.
3 qts. flour.
½ yeast-cake for 10–12 hr., or
½ c. home-made yeast, or
2 yeast-cakes for 5–6 hr.
¼ c. lukewarm water.

Follow general rules.

Variation.

GRAHAM BREAD.

Substitute 1½ tbsp. molasses for 1 tbsp. sugar, and use 1 qt. white flour plus 7 c. Graham flour.

YEAST BREAD (WITHOUT SPONGE).

(Two Loaves.)

2 tbsp. sugar.
2 tsp. salt.
2 tsp. fat.
1 pt. boiling water or Scalded milk and water.
½ to 1 cake compressed yeast.
½ c. lukewarm water.
7–8 c. bread or hard-wheat flour.

1. To the sugar, salt, and fat add boiling water or hot milk and water mixture.
2. Stir to dissolve and cool to lukewarm.
3. Break yeast-cake into small pieces.
4. Add the lukewarm water and stir, and add this mixture to the other mixture which has been cooled to lukewarm.
5. Add enough sifted flour to make a stiff dough and mix in by means of a knife.
6. Turn dough on to a lightly floured board and knead until it is elastic.
7. Place the dough in bowl.
8. Rub over surface of dough with lukewarm water.
9. Set aside in a warm place to rise with bowl covered.
10. Let rise until double in bulk.
11. Knead dough on lightly floured board until large gas-bubbles have disappeared.
12. Cut into two pieces. Shape each piece into a loaf. Place in pan.
13. Rub over with butter or lukewarm water. Cover with clean cloth.
14. Set aside until loaves have increased to 2½ times size when placed in pan.
15. Bake in a hot oven (425° F.) for 15 min. Then reduce temperature to 375° F. for 35–45 min.

Tests to Show when Bread is Done.

1. The crust should be a golden-brown.
2. The crust should be drawn away from the sides of the pan.
3. There should be a hollow sound when tapped with the knuckles.

PLAIN ROLLS.

2 c. milk.	6 c. flour.
2 tbsp. sugar.	¼ c. lukewarm water.
2 tbsp. fat.	¼ yeast-cake (if set at night) for 9–10 hr.
1 tbsp. salt.	

1 yeast-cake for 5–6 hr.

1. Scald milk; add sugar, fat, and salt.
2. Cool to lukewarm.
3. Add yeast, dissolved in lukewarm water.
4. Add flour to make sponge; beat until very light; cover; set in warm place to rise.
5. When foamy, add flour to make a dough.
6. Knead until elastic; set to rise in warm place until double in bulk.
7. Knead slightly; shape into rolls.
8. Place in greased baking-pans; set to rise.
9. When light, bake in a hot oven 15–30 min. (375°–400° F.).

PARKER HOUSE ROLLS.

For ingredients *see* Plain Rolls.

1. Roll dough to ⅓ inch thickness on lightly floured board.
2. Lift dough from board to let it shrink; then cut with a round or oval cutter.

3. Crease each circle through the middle with the back of a case-knife; brush over half of the circle with melted butter.

4. Fold over, press edges together, and finish as Plain Rolls.

CAKES.

Cakes are divided into two classes: (1.) Cakes without fat; e.g., sponge cake, angel food. (2.) Cakes with fat; e.g., layer, loaf, and pound cakes.

Cakes without fat contain a large proportion of eggs and very little, if any, liquid. They depend upon the moisture of the egg and the incorporation of air in the albumen of the egg-white to furnish steam and air for leavening.

GENERAL RULES FOR CAKES WITHOUT FAT.

1. See to oven.
2. Prepare pans.
3. Sift the sugar to remove lumps.
4. Sift the flour once before measuring and do not pack in cup.
5. Separate the eggs, taking care not to get any of the yolk in the white portion.
6. Beat the yolks until lemon-coloured and thick.
7. Beat the whites until stiff but not dry.
8. Add the sifted sugar slowly to the yolk mixture while beating.
9. Then add the flavouring and fold in half of the beaten whites very carefully.
10. Cut and fold the flour into the mixture; then fold in the remaining whites.
11. Turn the mixture carefully into a pan used only for cakes without fat. Wet pan with cold water or sprinkle with flour.
12. A pan with a hollow centre is advisable, so that the heat may penetrate to all parts of the mixture evenly.
13. Bake at 320° F.

CHEAP SPONGE CAKE.

⅞ c. pastry-flour.
1½ tsp. baking-powder.
¼ tsp. salt.
2 eggs.
¾ c. sugar.
⅜ c. hot water.
½ tsp. lemon extract.

1. Follow general rules for mixing.
2. Bake at 320° F. for 25–40 min.
3. Invert over a cake-cooler and let stand till cool.
4. Then with a spatula loosen from the pan.

SPONGE CAKE.

⅔ c. flour.
⅛ tsp. salt.
4 eggs.
⅔ c. sugar (fruit, or fine granulated).
½ tbsp. lemon-juice.
Grated rind of ⅓ lemon.

Follow general rules. Bake at 320° F. for about 1 hour.

ROLLED JELLY CAKE.

1 c. flour (pastry).
1½ tsp. baking-powder.
⅛ tsp. salt.
3 eggs.
⅞ c. fine sugar.
Juice and rind of ¼ lemon, or lemon extract.
Strawberry jam or any jelly.
2 tbsp. milk.

1. Sift flour, then measure it.
2. Add baking-powder.
3. Separate eggs and beat both yolks and whites well.
4. Add three-quarters of the sugar to the whites and one-quarter to the yolks, and beat until dissolved.
5. Fold yolks into whites.
6. Fold in sifted dry ingredients alternately with milk. Add rind and flavouring.
7. Pour into a pan lined with greased paper.
8. Bake in a slow oven (320° F.) for 20 min.
9. When baked, turn quick on to a clean, wet cloth and spread with jelly or jam.
10. Roll at once.

GENERAL RULES FOR CAKES WITH FAT.

1. Sift flour, then measure it. Add baking-powder and salt and sift two or three times.
2. Cream fat.
3. Add sugar one-quarter at a time, beating until dissolved. (If a small amount of fat is used, part of the sugar may be added to the beaten egg to assist in combining it more readily.)
4. Add well-beaten egg and beat well—about 2 min.
5. Add milk alternately with the mixed and sifted dry ingredients one-third at a time. Beat well after each addition.
6. When all ingredients have been added, beat 2 min.
7. Baked in greased pans in a moderate oven (350°–360° F.). It is best to line the bottom of the pan with greased paper.
8. Time for baking:—
   Cup cakes, 12–15 min.
   Layer cakes, 20–30 min.
   Loaf cakes, 45–60 min.
9. Tests to show that cake is done:—
   (1.) It is nicely browned.
   (2.) It shrinks from the edge of the pan.
   (3.) When pressed with finger it springs back.
   (4.) When a toothpick or knitting-needle is placed in the centre it comes out dry.

CAUSES OF CAKE FAILURES.

1. Outside Appearance.

(*a.*) *Cracked Crust.*—Too hot an oven or too much flour.
(*b.*) *Hard and Coarse Crust.*—Too much sugar.
(*c.*) *Uneven Thickness.*—Oven or uneven temperature or cake placed too close to one side of the oven.

2. Inside or Crumb of Cake.

(*a.*) *Coarse Grain.*—Too much moisture or sugar or baking-powder.
(*b.*) *Dry.*—Too much flour or too hot an oven.
(*c.*) *Tough.*—Too little fat.
(*d.*) *Heavy.*—Too little baking-powder, or falling during baking or after removing from oven.

Falling of cake may be due to:—

(*a.*) Too much fat or sugar or baking-powder.
(*b.*) Too little flour.
(*c.*) Jarring during baking.

ONE-EGG CAKE.

1½ c. pastry-flour.
2½ tsp. baking-powder.
¼ tsp. salt.
½ c. sugar.
¼ c. fat or shortening.
1 egg.
½ c. milk.
½ tsp. vanilla or other flavouring.

Follow general rules.

Variations.

For *Walnut Cake* add ½ c. chopped nuts; add 1–2 tbsp. more flour.

For *Chocolate Cake* substitute brown for white sugar and increase the amount by ¼ c., and add 2½ oz. melted chocolate (use 2½ tsp. less flour) or 5 tbsp. cocoa (use 5 tsp. less flour).

For *Cocoanut Cake* add ½ c. shredded cocoanut and 1–2 tbsp. more flour.

For *Spice Cake* add ½ tsp. cinnamon, ½ tsp. allspice, ½ tsp. nutmeg, and ½ tsp. cloves.

For *Fruit Cake* add ½ c. raisins, ¼ c. currants, ¼ c. citron, mixed together and sprinkled with a little flour.

TWO-EGG CAKE.

1⅔ c. flour.
2½ tsp. baking-powder.
¼ tsp. salt.
1 tsp. vanilla.
¾ c. sugar.
¼ c. fat.
2 eggs.
½ c. milk.

Follow general rules.

SPICE CAKE (SMALL CAKE).

1¼ c. flour.
¾ tsp. baking-powder.
½ tsp. soda.
¼ tsp. salt.
½ c. raisins.
⅜ c. walnuts.
½ tsp. cinnamon.
¼ tsp. each of cloves and nutmeg.
½ c. brown sugar.
¼ c. fat.
¼ c. molasses.
1 egg or 2 yolks.
½ c. sour milk.

Follow general rules, adding molasses to creamed fat and sugar.

FUDGE CAKE, I. (LARGE CAKE).

2¼ c. pastry-flour.
4 tsp. baking-powder.
½ tsp. soda.
½ tsp. salt.
5 tbsp. cocoa.
1½ c. sugar.
⅜ c. fat.
2 eggs.
¾ c. sour milk.
⅜ c. hot water.
2 tsp. vanilla.

1. Sift flour, then measure it.
2. Add soda, baking-powder, salt, and cocoa to flour, and sift.
3. Cream fat. Add sugar. (Add one-half of the sugar to the beaten egg and one-half to the fat to assist in combining more readily.)
4. Add beaten eggs.
5. Add sour milk and hot water with vanilla alternately with the dry ingredients.
6. Bake in a flat pan lined with greased paper, 35 min. to 1 hour.

FUDGE CAKE, II. (INEXPENSIVE).

2 c. pastry-flour.
2 tsp. baking-powder.
½ tsp. salt.
½ c. butter.
1 c. sugar.
2 squares unsweetened chocolate, melted, *or* 6 tbsp. cocoa.
1 egg, well beaten.
¾ c. milk.
1 tsp. vanilla.

1. Sift flour, measure, add baking-powder and salt. Sift three times.
2. Cream butter. Add sugar gradually.
3. Add melted chocolate, egg, and vanilla.
4. Add flour alternately with milk.
5. Bake at 325° F. for 1 hour.

NOTE.—If using cocoa, sift in with the flour.

DEVIL'S CAKE.

2¼ c. fine pastry-flour (e.g., Swansdown).
1 tsp. baking-powder.
¼ tsp. salt.
2 c. brown sugar.
½ c. butter.
2 eggs.
½ c. sour milk.
½ c. hot water.
1 tsp. soda.
1 tsp. vanilla.
1½ squares chocolate.

1. Sift flour, baking-powder, and salt.
2. Cream butter and 1 c. of sugar.
3. Beat eggs until light and add the other cup of sugar. Mix well. Add to creamed butter and sugar.
4. Add flour to creamed mixture alternately with sour milk, and beat vigorously. Melt chocolate over hot water.
5. Stir water and soda into melted chocolate and add to the batter.
6. Add vanilla.
7. Bake at 325° F. for 15 min. and 350° F. for 15 min.

CHRISTMAS CAKE.

1 lb. butter.
1 lb. brown sugar.
12 eggs.
1 lb. flour.
3 tsp. cinnamon.
1 tsp. mace.
2 tsp. allspice.
2 tsp. nutmeg.
½ tsp. cloves.
3 lb. raisins.
1 lb. currants.
½ lb. dates.
½ lb. shelled almonds.
1 lemon, juice and rind.
½ c. cold coffee (scant).
½ c. preserved fruit-juice (scant).
¾ lb. citron-peel.
¼ lb. lemon-peel.

1. Line the pans with three thicknesses of paper and butter the top layer only.

2. Seed the raisins and tear in quarters. Wash and dry currants. Stone the dates and cut in small pieces.

3. Blanch and chop the almonds. Cut the peel in thin slices and then in small pieces.

4. Mix the nuts and fruit (except peel) and dredge with ⅓ c. flour.

5. Dredge the citron and lemon peel with flour.

6. Mix and sift remaining flour with spices.

7. Cream the butter. Add sugar, yolks of eggs well beaten, and whites beaten stiff.

8. Add lemon juice and rind and beat thoroughly.

9. Add liquid and sifted flour alternately. Beat well and then add fruit.

10. Put a layer of the mixture into a pan, then a layer of the peel. Repeat until the pan is two-thirds full, having the cake mixture for the top layer.

11. Bake in a slow oven 250°–300° F. for 3–4 hours.

CAKE FROSTINGS.

BUTTER ICING.

2–4 tbsp. butter.
1–2 tbsp. water or milk.
1½ c. confectioner's sugar, or enough to thicken.
1 tsp. flavouring.

1. Cream butter; add liquid and sugar alternately until of right consistency to spread.

2. Add flavouring and beat well.

3. Spread on cake.

MOCHA OR COFFEE ICING.

To the above, add 1 tbsp. dry cocoa, and instead of water add strong coffee.

ORANGE ICING.

In the recipe for butter icing, substitute orange-juice for liquid and add grated rind of orange.

CHOCOLATE ICING.

Add 1 sq. melted chocolate to recipe for butter icing.

UNCOOKED FROSTING.

2 egg-whites.
⅔ tsp. cream of tartar.
Powdered sugar about 1–1½ c.
⅔ tsp. flavouring.

1. Add cream of tartar to unbeaten egg-whites and 1 c. of the powdered sugar.

2. Beat all hard for about 10 min. or until the mixture thickens.

3. Then gradually add enough more sugar, while you continue beating, to make the mixture thick enough to spread on the cake.

4. Use any flavouring, and spread the frosting evenly on the cake.

NOTE.—The success of this frosting depends upon the beating before more than 1 c. of sugar is added.

Variation.

For *Chocolate Frosting* add 1 sq. of melted chocolate to above rule.
For *Cocoanut Frosting* add ½ c. grated cocoanut to above rule.

CARAMEL ICING.

2½ c. light-brown sugar.
1 tsp. butter.
1¼ c. cream (or evaporated milk).
1 tsp. vanilla.

1. Cook sugar and cream until it forms a soft ball in cold water (234° F.).
2. Add butter and vanilla.
3. Remove from fire and beat till right consistency.

FUDGE FROSTING.

2 c. sugar.
⅔ c. milk.
2 sq. chocolate.
2 tbsp. corn syrup.
2 tbsp. butter.
1 tsp. vanilla.

1. Melt chocolate or break in small pieces.
2. Put sugar, milk, chocolate, and corn syrup into saucepan and cook slowly, stirring often till 234° F. is reached.
3. Add butter and set to cool.
4. When cooled to 110° F. add vanilla and begin to beat. Continue until a creamy consistency.

COMFORT FROSTING.

2½ c. sugar.
½ c. light corn syrup.
½ c. water.
2 egg-whites.
1½ tsp. vanilla.

1. Cook together sugar, syrup, and water until temperature of 248° F. is reached.
2. Beat egg-whites with Dover beater until stiff.
3. Add syrup slowly, beating constantly. (A wire whisk makes the beating easier when it begins to stiffen.)

SEVEN-MINUTE FROSTING.

2 tbsp. cold water.
⅛ tsp. cream of tartar.
Speck of salt.
1 egg-white, unbeaten.
¾ c. granulated sugar.
1 tsp. extract.

1. Put hot water in the lower part of a double boiler.
2. Put the top part over the hot water.
3. Set the double boiler over a flame and heat it until the water in the lower part boils.
4. Put all ingredients except vanilla in the upper part of the double boiler.
5. Immediately begin to beat the mixture with a wheel egg-beater. Continue to beat it for 7 min.
6. Lift the top part of the double boiler out of the lower part. Pour the hot water out of the lower part and add cold water.
7. Return the upper part of the double boiler to the lower part.
8. Let the frosting cool for about 5 min.
9. Add the extract. Beat it into the sugar mixture. Spread the frosting on the cake.

COOKIES.

Drop Cookies.

ROLLED OATS CRACKLES.

1 c. flour.
½ tsp. soda.
½ tsp. salt.
1 c. rolled oats.
1 c. cocoanut.
½ c. fat.
½ c. brown sugar.
¼ c. water.
1 tsp. vanilla.

1. Use muffin (or cake) method of mixing.
2. Drop by spoonfuls on a greased baking-sheet.
3. Press into very thin wafers with a fork.
4. Bake in a hot oven until a delicate brown.
5. Remove from the pan immediately.

NOTE.—This recipe makes 4 doz. cookies.

BROWNIES.

½ c. pastry-flour.
1 tsp. salt.
¼ c. shortening.
1 c. sugar.
2 eggs.
2 squares chocolate.
½ tsp. vanilla.
¼–½ c. walnuts.

1. Sift flour and measure. Add salt.
2. Cream shortening and add half the sugar, stirring till creamy.
3. Add melted chocolate.
4. Beat eggs till light, and add the remainder of the sugar to the eggs. Add to mixture and mix thoroughly.
5. Add flour and salt, walnuts, and vanilla.
6. Spread ¾ in. thick in a buttered, shallow pan.
7. Bake in a moderate oven—350° F. for 30 min.
8. Cut in squares while hot. Remove from the pan to the cake-cooler.

PEANUT COOKIES.

½ c. flour.
1 tsp. baking-powder.
¼ tsp. salt.
¼ c. sugar.
2 tbsp. fat.
1 egg.
1 tbsp. (scant) milk.
½ c. finely chopped peanuts.
½ tsp. lemon-juice.

Follow general rules. Drop from a teaspoon on a buttered baking-sheet 1 inch apart. Place one-half peanut on top of each. Bake in a moderate oven (350° F.) for 12–15 min.

WHITE COCOANUT MACAROONS.

3 egg-whites.
1 c. white sugar.
2 tbsp. corn-starch.
¼ tsp. salt.
2 c. cocoanut.
1 tsp. vanilla.

1. Add corn-starch and sugar well-sifted to well-beaten egg-whites.
2. Beat well till sugar partly dissolves.
3. Put over double boiler. Cook, stirring constantly till mixture coats spoon thickly and sugar-grains have disappeared.
4. Add cocoanut and vanilla.

5. Drop on to well-greased pans, about 2 inches apart. (Do not make too large.)

6. Bake in a slow oven till thoroughly cooked.

HERMITS.

5 c. + flour.
2 tsp. soda.
1 tsp. nutmeg.
1 tsp. cinnamon.
¼ tsp. salt.
2½ c. brown sugar.
1 c. butter.
4 eggs.
2 c. dates.
2 c. raisins.
1 c. nuts or sliced orange-peel.
4 tbsp. sour milk.

1. Measure and sift dry ingredients.
2. Cream butter and add sugar gradually. One-half the sugar may be added to the beaten eggs.
3. Beat eggs until light and add to butter and sugar.
4. Add dry ingredients, milk and nuts or orange-peel, raisins and dates, stoned and cut.
5. Drop from a teaspoon on a buttered baking-sheet 1 inch apart.
6. Bake in a moderate oven (350° F.) 12–15 min.

NOTE.—It is best to test one cookie to see that it holds its shape while cooking. If it spreads, a little more flour should be added.

CHINESE CHEWS.

¾ c. flour.
1 tsp. baking-powder.
¼ tsp. salt.
2 eggs.
1 c. white sugar.
1 c. walnuts.
1 c. dates.

1. Sift flour and measure. Add baking-powder and salt and sift again.
2. Beat eggs until light.
3. Add sugar and dry ingredients.
4. Add walnuts and dates, chopped.
5. Press into a greased pan (8 by 8 inches).
6. Cook in a slow oven (300°–325° F.) for 20–25 min.
7. When a crust forms (after about 15 min.) it is advisable to mix the crust into the softer centre portion with a fork.
8. Replace in oven and cook 10–15 min. longer; then repeat No. 7.
9. When cooked, lift out in spoonfuls and roll in the palm of the hand.
10. Roll in powdered sugar and store in a covered tin box.

RAGGED ROBINS.

½ lb. dates.
½ c. glazed cherries.
1 c. walnuts.
1¾ c. corn-flakes.
2 egg-whites.
½ c. granulated sugar.
f.g. salt.
¼ tsp. vanilla.

1. Beat egg-whites stiff. Add vanilla and salt to egg-whites.
2. Mix dry ingredients and add to egg-whites.
3. Drop 2 inches apart on buttered baking-sheet.
4. Bake in a moderate oven (325° F.) for about 15 min.

MATRIMONIAL CAKE.

Filling.

2 c. dates.
1 c. boiling water.
1 tbsp. brown sugar.
Lemon.

1. Wash dates. Stone and cut in pieces.
2. Add brown sugar and boiling water.
3. Cook until smooth.
4. Add lemon and cool.

Rolled Oats Mixture.

1¼ c. rolled oats.
1¼ c. white flour.
½ c. brown sugar.
1 tsp. soda.
¾ c. butter.

1. Sift flour and measure. Add soda and sift again.
2. Cream butter and sugar.
3. Add rolled oats and flour mixture and crumb together.
4. Grease pan well and press about one-half of mixture into the bottom of the pan.
5. Spread on date-paste.
6. Put on rest of mixture and press down.
7. Bake in a moderate oven (350° F.).

DATE BARS.

1 c. flour.
2 tsp. baking-powder.
¼ tsp. salt.
1 egg.
1 c. sugar.
½ c. milk.
¾ c. dates.
1 c. chopped nuts.

1. Sift flour and measure. Add baking-powder and salt and sift again.
2. Beat eggs till light. Add sugar and milk.
3. Add dry ingredients, also nuts and dates.
4. Turn into oblong pan or square pan 9 by 9 inches.
5. Bake at 350° F. for 25–30 min.
6. When baked, cut in narrow strips 1 by 4½ inches.
7. Roll each strip in powdered sugar.
8. Store in a tightly covered tin box.

These cakes have a fine flavour after they have been stored for a few days.

SUGAR COOKIES.

Rolled Cookies.

2½ c. flour.
3 tsp. baking-powder.
¼ tsp. salt.
1 c. sugar.
½ c. fat.
2 eggs.
1 tbsp. milk.
1 tsp. vanilla or lemon.

1. Mix according to general rules.
2. Roll a little at a time on a *lightly* floured board; cut in shapes; sprinkle with sugar.

Bake in a moderate oven (350° F.) 10–15 min.

ICE-BOX COOKIES.

4 c. flour.
1 tsp. soda.
1 tsp. baking-powder.
Pinch of salt.
2 c. light-brown sugar.
1 c. butter.
1 tsp. vanilla.
2 eggs.

Walnuts if desired.

1. Sift flour and measure (keeping separate the fourth cup).
2. Add soda, baking-powder, and salt, and sift again.
3. Cream butter.
4. Add one-half the sugar and cream until smooth.
5. Beat eggs slightly and add the other half of the sugar and vanilla.
6. Add dry ingredients (including the 3 cups of flour and nuts).
7. Knead in as much of the fourth cup of flour as possible so as to be able to roll thin.
8. Place overnight in the ice-box.
9. These may be sliced or rolled thin on a lightly floured board and cut with a cutter.
10. Bake in a moderate oven (350° F.).
11. Just before serving, date filling may be added if desired.

OATMEAL COOKIES, I.

2 c. pastry-flour.
1½ tsp. soda.
½ tsp. salt.
2 c. brown sugar.
7 c. oatmeal or rolled oats.
1 c. fat.

Cold water to wet sufficiently to roll.

1. Sift dry ingredients.
2. Cut or rub in fat as for biscuits.
3. Mix like pie-paste, adding only enough water to make dough hold together. (Do not have wetter than necessary.)
4. Roll very thin, using very little flour on the board.
5. Cut and bake 10–12 min. in a moderate oven. (Makes 150 cookies.)

DATE FILLING FOR ABOVE.

1. Stone and cut finely 2 lb. of dates. (Remove stem ends.)
2. Add enough water to keep from burning; cook until soft. Add 1 tbsp. sugar. Lemon may be added, if desired.
3. Add vanilla to taste. Lemon may be added.
4. When cool, spread between oatmeal cookies. (NOTE.-- Fill cookies on the day you wish to use them as they soften if left filled too long.)

ROLLED OAT COOKIES, II.

2 c. flour.
1 tsp. soda.
Pinch of salt.
1½ c. oatmeal.
1 c. butter.
1 c. brown sugar.
Enough cold water to wet sufficiently to roll—about 3 tbsp.

1. Sift flour and add soda and salt, and sift again.
2. Cream butter and sugar.
3. Add oatmeal and flour, salt and soda.
4. Add water to wet.

5. Roll in small lots until thin on lightly floured board.

6. Cut in desired shapes and cook at 350° F.

7. Just before serving, cookies may be placed one over the other with a Date Filling between.

QUESTIONS.

1. From what section of our country does most of our flour come?
2. Explain the difference between Graham flour and white flour.
3. What classification of flour mixtures have we?
4. Give the proportions of liquid and flour in the various flour mixtures.
5. What are the differences between bread-flour and pastry-flour?
6. Which kind of flour would you use for making muffins? For bread? For baking-powder biscuits? For cake?
7. What is a drop batter? A soft dough? Name an example of each.
8. What is meant by " hot breads "?
9. What causes tunnels in muffins?
10. Explain how baking-powder makes muffins light.
11. How much baking-powder should you use for 1 cup of flour?
12. How much soda do you use for a cup of sour milk?
13. What is a leavening agent? Name three.
14. When sour milk is substituted for sweet milk in a recipe, what changes do you make?
15. What is carbon dioxide? Name four ways in which we can produce it.
16. Give the proportions and method of making Graham muffins.
17. What is the difference between the muffin method and the cake method of mixing?
18. Which is the quicker method? Which method gives the finer texture?
19. Is toast easier to digest than bread? Why?
20. Why are " hot breads " difficult to digest?
21. Give proportions and directions for making baking-powder biscuits.
22. At what temperature should you bake muffins? Biscuits?
23. Give the simple home tests for oven temperature where there is no thermometer.
24. What is the secret of making good baking-powder biscuits?
25. When and how should cakes be eaten?
26. Why are cookies best for little children?
27. Name the leavening agents used with sweet milk. With molasses. With sour milk.
28. What are the proportions used in standard cake?
29. How may this be varied?
30. Give the general rules for making a cake with butter. Without butter.
31. What are some of the causes of cake failures?
32. What effect has too much sugar on the texture of cake? Too much flour? Too much fat?
33. What is the food value of butter cakes?
34. What is their place in the diet?
35. What is the leavening agent used in a sponge cake? Explain the action.
36. In substituting baking-powder for eggs in a sponge-cake rule, what quantity would you use for each egg omitted?

37. What is the general proportion of fat to sugar in cakes?
38. How could you use the yolks of eggs left after making a white layer cake?
39. How should fruit be added to a cake mixture?
40. How should spices be added to a cake mixture?
41. What temperature is used in baking sponge cakes? Loaf cakes?
42. What is the result of too much handling in rolling cookies?
43. How can you prevent dough from sticking to the board?
44. Why should cookies be cut close together?
45. Does the dough that is trimmed off and rerolled make as good and tender cookies as that which is rolled once?
46. How would you test a cake to see if it is done?
47. What foodstuffs are found in flour mixtures?
48. What foodstuff is highest in pastry?
49. Is the habitual use of hot breads to be recommended? Why?
50. What is the protein of bread-flour called?
51. Why is gluten so valuable in bread-making?
52. Explain the action of yeast in bread-making.
53. What is the difference between the sponge method and the straight dough method of bread-making?
54. How can you tell when bread is ready to go into the oven?
55. Give two tests that will tell when bread is baked.
56. At what temperature will you bake bread? Rolls?
57. What is added to bread dough to make Parker House rolls?
58. How did the name " Parker House " originate?
59. What is the cost of a dozen home-made rolls? Baker's rolls?

STIFF DOUGHS.

PASTRY.

General Rules.

1. Have all materials as cold as possible. (Pastry-flour should be used.)
2. Sift dry ingredients.
3. Cut in fat with two knives.
4. Using a knife, mix in just enough water to make a stiff dough.
5. Bake shells on the outside or inside of plate, pricking so that it may keep its shape.
6. Bake in a very hot oven—12 min. for a shell, 40 min. for a double crust.

NOTE.—If two crusts are used, moisten the edge of the lower crust with cold water; then fill and place the upper crust over the pie, pressing the edges together with the back of the fork. Make incisions to allow the steam to escape.

PLAIN SHORT PASTRY.

(ONE SHELL.)

1 c. flour.
⅓ c. fat.
¼–½ tsp. salt.
Cold water.

Follow general rules.

(FOR TWO SHELLS.)

1½ c. flour.
½ c. fat.
½ tsp. salt.
Cold water.

Follow general rules.

APPLE PIE.

4–5 apples (sour).
⅓–½ c. sugar.
⅛ tsp. salt.
¼ tsp. cinnamon or nutmeg.
1 tsp. butter.
2 tbsp. water if apples need it.

1. Wash, pare, and slice the apples.
2. Line the pie-plate with pastry and fill with sliced apples.
3. Mix sugar, salt, and spices, and sprinkle over the apples.
4. Cover with upper crust, following general rules.

DEEP APPLE PIE (ENGLISH).

Use same ingredients as above, omitting bottom crust.

RHUBARB PIE.

6–8 stalks rhubarb.
Flour.
1 c. sugar.
Powdered sugar.

1. Cut rhubarb into small pieces, removing strings.
2. Flour rhubarb until quite white.
3. Line a pie-plate with pastry.
4. Fill shell with rhubarb and add sugar.
5. Add top crust and follow general rules.
6. When cooked sprinkle with powdered sugar.

PUMPKIN PIE.

1½ c. stewed and sifted pumpkin.
1 c. scalded milk.
½ c. sugar.
½ tsp. salt.
½ tsp. ginger.
1 tsp. cinnamon.
1 egg.

1. Beat egg slightly.
2. Mix ingredients in the order given.
3. Line a pie-plate with pastry, put on a rim, and pour in the mixture.
4. Bake in a hot oven to start cooking of the pastry, 450° F.; then reduce the heat to 325° F. to cook the custard.
5. When a knife comes out clean the custard is cooked.

NOTE.—Shell may be baked a little first to prevent filling from making it soggy.

LEMON PIE.

¼ c. cold water.
1¼ c. boiling water.
¾ c. sugar.
1 large lemon, rind and juice.
1 egg, or, if desired richer, 2 eggs.
4 tbsp. corn-starch.
½ tsp. salt.

1. Mix corn-starch and cold water.
2. Add boiling water and cook directly over the fire, stirring constantly until mixture thickens.
3. Cook in double boiler 15–20 min. to cook starch-grains thoroughly.
4. Add sugar and stir until dissolved.
5. Add egg-yolk, rind, and lemon-juice mixed together.
6. Cook 3 min. longer.
7. Pour into cooked shell.
8. Cover with meringue and brown in slow oven.

MERINGUE.

1 or 2 egg-whites. 2–3 tbsp. powdered sugar.

1. Beat eggs until stiff; gradually beat in the sugar.
2. Pile lightly on top of filled crust.
3. Cook in a slow oven, 300° F., for 15–20 min.

CUSTARD PIE.

2 eggs.
¼ c. sugar.
¼ tsp. salt.
2 c. hot milk.
¼ tsp. vanilla, or
Few gratings nutmeg.

1. Beat eggs slightly; add sugar and salt.
2. Add milk; strain; cool; add flavouring.
3. Pour into pie-plate lined with pastry.
4. Place in a *hot* oven to start the cooking of the pastry; then reduce the heat to a lower temperature for custard. Bake until custard is firm. Temperature 450° F. for 15 min., reduce to 325° F.
5. The custard is cooked when a knife comes out clean.

Variations.

Cheap Custard Pie.—Use 1 tbsp. corn-starch or 1 tbsp. flour in place of 1 egg in making the custard. Make the same as corn-starch pudding and pour into the cooked shell.

Chocolate Pie.—Add ¼ square Baker's chocolate (melted) to the custard rule.

Cocoanut Pie.—Add ½ c. of cocoanut to the custard rule before baking.

NOTE.—Cream may be added in any of the variations if a richer custard is desired.

QUESTIONS.

1. Give the proportions for pastry.
2. Name three things that should be observed if one wishes to make good pastry.
3. At what temperature should a double-crust pie be cooked?
4. Is pastry digestible?
5. Would it be wise to serve apple pie with roast pork? Why?
6. Give detailed instructions for the making and cooking of a meringue.
7. What causes water-drops on the top of a meringue?
8. What makes a meringue tough.
9. Why do you cook the filling for a lemon pie in a double boiler?
10. What is meant by a "deep apple pie"?

DESSERTS.

CUSTARDS—GENERAL RULES.

1. Mix eggs thoroughly, but do not beat light.
2. To these add sugar and salt, and then the hot milk slowly.
3. Strain; cook in a pan of hot water at 325° F.
4. Tests: (*a.*) For Baked or Steamed Custard insert a knife. If it comes out clean the custard is cooked. (*b.*) For Soft Custard. When mixture coats a spoon the custard is cooked.

STEAMED OR BAKED CUSTARD.

1 pt. milk.
2 eggs.
2–3 tbsp. sugar.
¼ tsp. salt.
f.g. nutmeg, or
¼ tsp. vanilla, or
2 tbsp. caramel.

Prepare according to general rules.

NOTE.—In baking a large amount use 3 eggs to 1 pt. of milk.

CARAMEL.

1 c. sugar.
1 c. boiling water.

1. Place sugar in pan and heat gradually until melted, stirring constantly to prevent burning.
2. Add water and boil 5 min. Pour into sterile bottle.

Variation.

One-half ounce unsweetened chocolate may be melted and mixed with the milk for chocolate custards.

SOFT CUSTARD.

2 c. milk.
4 yolks of eggs.
2–3 tbsp. sugar.
¼ tsp. salt.
½ tsp. vanilla.

1. Follow general rules for mixing.
2. Cook over hot water, stirring constantly, until thick enough to coat a silver spoon; strain, cool, and flavour.

FLOATING ISLAND.

1 pt. milk.
4 eggs.
2–3 tbsp. sugar.
Salt.
½ tsp. vanilla.

1. Scald the milk in a double boiler.
2. Separate the eggs, beating the whites until stiff and dry.
3. Fold into the beaten whites 2 tbsp. sugar and carefully cook in the hot milk 2 or 3 min.
4. Remove them with a large spoon to a serving-dish.
5. Beat the yolks until lemon-coloured and add the remainder of the sugar and salt.
6. Add hot milk slowly to beaten yolk mixture and cook over hot water, stirring constantly until the mixture lightly coats a silver spoon.
7. Pour this custard sauce over the whites in the serving-dish. Serve cold.

ORANGE CUSTARD.

2 c. soft custard.
2 tbsp. fruit sugar.
4 sweet oranges.

1. Peel oranges; divide into sections; remove the thin skin completely from each section.
2. Place in serving-dish; sprinkle with sugar; chill.
3. Cool the custard; pour over oranges.
4. Garnish with meringue or whipped cream. Bananas or peaches may be substituted for oranges.

BREAD AND BUTTER PUDDING.

Bread.
2 c. hot milk.
1 egg.
2–4 tbsp. sugar.
¼ tsp. salt.
2 tbsp. butter.
½ tsp. vanilla.

1. Cut stale bread into ⅓-inch slices; spread with butter and cut in ½-inch strips.
2. Place strips in buttered baking-dish.
3. Sprinkle layer with a few raisins, washed and stoned.
4. Place second layer of bread-strips in opposite direction; repeat until dish is two-thirds full, having buttered bread on top.
5. Pour in raw custard to nearly fill the dish; let stand ½–1 hr.; cook in the oven in a pan of hot water at 325° F.
6. Pudding is cooked when a knife comes out clean.

Variations.

CHOCOLATE BREAD PUDDING.

Add to Bread and Butter Pudding:—

1 oz. chocolate.
2 tbsp. sugar.

1. Melt chocolate over hot water; add milk mixture very slowly.
2. Finish as Plain Bread Pudding.

LEMON BREAD PUDDING.

Add to Bread and Butter Pudding:—

1 tbsp. lemon-juice.
½ tbsp. grated lemon-rind.

TRIFLE.

2 c. stale cake.
Fruit (6–8 halves of peaches).
⅓ c. fruit-juice.
2 c. soft custard.

1. Cut cake in uniform pieces, according to shape of serving-dish; arrange in dish.
2. Sprinkle with fruit-juice.
3. Add fresh or cooked fruit cut in pieces.
4. Make soft custard; cool and pour over fruit and cake.
5. Garnish with meringue or whipped cream, cherries or red jelly. Blanched almonds and raspberry jam may be added.

RICE CUSTARD.

2 c. milk.
⅔ c. cooked rice (3½ tbsp. uncooked).
2 eggs.
½ c. sugar.
½ tsp. salt.
1 tsp. flavouring.

1. Add the beaten egg to the rice mixed with milk and the other ingredients.
2. Bake as a plain custard.

CREAMY RICE PUDDING.

⅓ c. rice.
½ tsp. salt.
⅓ c. sugar.
Nutmeg.
⅓ tsp. vanilla.
3 c. milk.

1. Wash rice; add remaining ingredients.
2. Pour into buttered pudding-dish.
3. Bake in a pan of hot water 2–3 hr. in a slow oven.
4. Stir frequently until pudding is nearly cooked; then brown slightly.

TAPIOCA CUSTARD PUDDING.

¼ c. pearl tapioca.
1½ c. milk.
2 eggs.
⅓ c. sugar.
⅛ tsp. salt.
½ tsp. vanilla.

1. Soak tapioca in enough cold water to cover until water is absorbed.
2. Add milk and cook in double boiler until tapioca is transparent.
3. To the beaten yolks, sugar, and salt, add a little of the hot mixture.
4. Return all to the double boiler and cook 3 min.
5. Cool slightly. Fold in the well-beaten whites.
6. Flavour and serve.

NOTE.—3 tbsp. of minute tapioca may be substituted. Soaking may then be omitted.

APPLE TAPIOCA PUDDING.

¾ c. pearl or ½ c. minute tapioca.
Cold water.
2½ c. boiling water.
½ tsp. salt.
7 sour apples.
½ c. sugar.

1. Soak pearl tapioca 1 hr. in enough cold water to cover; drain; add boiling water and salt.
2. Cook in double boiler until transparent.
3. Core and pare apples; arrange in buttered pudding-dish; fill cavities with sugar.
4. Pour over tapioca and bake in a moderate oven till apples are soft.
5. Serve with sugar and cream or custard sauce.

NOTE.—Minute tapioca requires no soaking.

Variation.

Rhubarb or pineapple may be substituted for apple, and sugar added to taste.

BLANC MANGE.

2 c. scalded milk.
3–4 tbsp. corn-starch.
2–4 tbsp. sugar.
⅛ tsp. salt.
1 tsp. vanilla.

1. Mix starch, sugar, and salt.
2. Stir in the milk and cook in double boiler until there is no taste of raw starch—20–30 min.

Variation.

For *Chocolate Corn-starch Pudding* use 3 tbsp. of corn-starch instead of 4, ⅓ c. sugar in place of 2 tbsp., and add 1 sq. of chocolate or 3 tbsp. cocoa.

CARAMEL PUDDING.

¾ c. sugar (granulated).
½ c. boiling water.
3 c. scalded milk.
4½ tbsp. corn-starch.
⅛ tsp. salt.
1 egg.
½ tsp. vanilla.

1. Caramelize ½ c. sugar. Add boiling water gradually, and boil 10 min. (*See* "Caramel," page 109.)
2. Mix the remainder of the sugar with salt and corn-starch. Add the hot milk gradually and return the mixture to the top of the double boiler.
3. Stir constantly and as the mixture begins to thicken, add the caramel.
4. Cook 20–30 min., stirring every 10 min.
5. Beat egg and add hot mixture.
6. Cook 5 min. longer.
7. Add flavouring, chill, and serve with cream and sugar.

LEMON SNOW.

1½ c. water.
⅔ c. sugar.
3 tbsp. lemon-juice.
2 egg-whites.
3 tbsp. corn-starch.

1. Mix sugar and starch.
2. Add boiling water and cook until there is no taste of raw starch—20–30 min.
3. Add lemon-juice. Fold in the stiffly beaten whites. Mould and chill. Serve with Custard Sauce. (*See* page 114.)

JUNKET.

1 pt. milk.
1 junket tablet dissolved in ½ tbsp. water.
½ tsp. vanilla.
1 tbsp. sugar.
Salt.

1. Heat milk until lukewarm.
2. Add the other ingredients.
3. Pour into cups.
4. Let stand in a warm place until set. Do not jar.
5. Chill, and serve with fresh fruit.

Variations.

1. For *Caramel Junket* add 2 tbsp. caramel flavouring and 1 additional tbsp. of sugar.
2. For *Fruit Junket* add sliced banana and chopped nuts.

COTTAGE PUDDING.

1¾ c. flour.
3 tsp. baking-powder.
½ tsp. salt.
⅔ c. sugar.
¼ c. butter.
1 egg.
½ c. milk.

1. Mix according to Cake Method.
2. Pour into greased pudding-moulds and steam 45 min., or bake in a loaf-tin in the oven 30–40 min.

Variations.

1. Add to the batter ¼ c. raisins, currants, dates or figs, floured.
2. Add to the batter 2 tbsp. marmalade.
3. Place a thick layer of sliced apples in bottom of mould. Sprinkle with sugar and nutmeg; pour batter over and steam.
4. For *Ginger Pudding* sift ¾ tsp. of ginger with the flour.

CARROT PUDDING.

1 c. flour.
½ tsp. soda.
1 tsp. salt.
1 tsp. cinnamon.
⅛ tsp. nutmeg.
½ tsp. allspice.
1 c. brown sugar.
1 c. grated carrot.
1 c. grated potato.
1 c. bread-crumbs.
1 c. raisins.
1 c. currants.
¾ c. suet finely chopped.
2 tbsp. sour milk.

1. Mix and sift dry ingredients. Add others in order given.
2. Turn into well-greased moulds.
3. Cover and steam—individual moulds, 1¼ hr.; large moulds, 3 hr.

BROWN BETTY.

¼ c. sugar.
¼ tsp. cinnamon.
¼ lemon-rind grated.
2 tbsp. lemon-juice.
3 c. sliced apples.
¼ c. butter.
2 c. soft bread-crumbs.
½ c. cold water.

1. Mix sugar, cinnamon, lemon juice and rind.
2. Melt butter and stir in the crumbs.
3. Butter a baking-dish; put in one-quarter of crumbs, one-half of apple, and sprinkle with one-half of sugar mixture.
4. Put another layer of crumbs, apple and sugar, and sprinkle the remaining crumbs on top.
5. Add water and bake slowly, covered at first.
6. When apples are soft, remove cover and brown crumbs.
7. Serve with cream or lemon sauce.
8. Ripe berries may be substituted for apples.

PUDDING SAUCES.

LEMON SAUCE.

¼ c. sugar.
1 tbsp. corn-starch, or
2 tbsp. flour.
1 c. boiling water.
1 tbsp. butter.
1 tbsp. lemon.
Grated lemon-rind.

1. Mix sugar and flour and add boiling water.
2. Cook over direct heat until no taste of raw starch (10–15 min.).
3. Remove from fire and add butter, lemon juice and rind.

BROWN SUGAR SAUCE.

½ c. brown sugar.
1½ tbsp. flour.
1 c. boiling water.
1 tbsp. butter.
½ tsp. vanilla.

Prepare as Lemon Sauce.

VANILLA SAUCE.

Same as Lemon Sauce, using 1 tsp. vanilla instead of lemon juice and rind.

CARAMEL SAUCE.

Same as Lemon Sauce, using 2 tbsp. caramel instead of lemon and rind.

CUSTARD SAUCE.

¾ c. milk.
Yolk of 1 egg.
1½ tbsp. sugar.
Salt.
⅛ tsp. vanilla.

1. Beat yolk of egg; add sugar and salt.
2. Add hot milk slowly, stirring constantly.
3. Cook over hot water, stirring until mixture coats a silver spoon.
4. Remove from heat; strain; add flavouring.

CHOCOLATE SAUCE.

½ c. white sugar.
½ c. water.
1½–2 sq. chocolate.
¼ tsp. vanilla.

1. Melt chocolate over hot water.
2. Add one-half the sugar gradually.
3. Add boiling water slowly, then the remainder of sugar.
4. Cook until sugar is dissolved and sauce is thick.
5. Add flavouring.

MOCK MAPLE SYRUP.

1 c. brown sugar.
¼ c. water.
1 tbsp. butter.
½ tsp. vanilla.

1. Boil the sugar and water 5 min.
2. Add butter and vanilla and serve hot or cold.

GELATINE DESSERTS.

Gelatine is a hard, unpalatable, transparent substance, prepared from bones and other animal tissue. Cold water swells and softens gelatine; hot water dissolves it.

Gelatine contains protein. It does not, however, contain the same quality of protein as is found in meat, milk, and eggs. The protein found in gelatine is inferior to that found in milk, meat, and eggs.

Because gelatine is lacking in flavour it is usually sweetened with sugar and flavoured with acid or sweet fruit-juice. Gelatine is a more valuable food when it contains fresh fruit-juices, because the latter are generally rich in vitamins and mineral matter.

Since only a small quantity of gelatine is contained in one serving of the gelatine dish, the food is valuable chiefly for the sugar and fresh fruit-juice added to it.

Gelatine is very easily digested.

GENERAL RULES.

1. Soak gelatine in cold water until it swells.

2. Make a syrup of boiling water and sugar. Boil 5 min. If using a prepared syrup from a canned fruit, boil only 1 min.

3. Pour over gelatine. Stir until dissolved and add flavouring. Boiling toughens gelatine.

4. Strain through a cheese-cloth which has been moistened with hot water.

5. Turn into a moistened mould and chill. Serve with sauce or whipped cream.

6. Do not use fresh pineapple sections or juice in making a gelatine dessert, as fresh pineapple contains an enzyme which breaks down the thickening-power of gelatine, causing a thin, watery mixture which will not thicken.

NOTE.—Gelatine mixtures should be kept covered, because gelatine is an ideal food for the growth of micro-organisms.

GENERAL PROPORTIONS.

1. ½ tbsp. granulated gelatine to 1 c. liquid (if sugar is used it is counted with the liquid).

2. If no acid is present, as in coffee jelly, use ⅓ tbsp. gelatine to 1 c. liquid.

LEMON JELLY.

1 tbsp. gelatine.
¼ c. cold water.
1 c. boiling water.
½ c. sugar.
Thin shavings of ¼ lemon-rind.
¼ c. lemon-juice.

Follow general rules.

NOTE.—When partly set, jelly may be beaten with Dover egg-beater until foamy.

FRUIT JELLY.

1 tbsp. gelatine.
¼ c. cold water.
1¾ c. fruit-syrup.
Cooked or raw fruit sections.

1. Follow general rules.
2. When gelatine is partly set, add fruit sections.

ORANGE JELLY.

1 tbsp. gelatine.
¼ c. cold water.
½ c. boiling water.
½ c. sugar.
¾ c. orange-juice.
1½ tbsp. lemon-juice.

Follow general rules.

COFFEE JELLY.

1¼ tbsp. gelatine.
½ c. cold water.
½ c. boiling water.
⅓ c. sugar.
2 c. coffee infusion.

Follow general rules.

SNOW PUDDING.

1 tbsp. gelatine.
¼ c. cold water.
⅔ c. boiling water.
Thin shavings of ¼ lemon-rind.
3 tbsp. lemon-juice.
⅔ c. sugar.
2 egg whites.

1. Prepare first six ingredients as in General Rules.
2. Chill; stir occasionally.
3. When partly set, beat until foamy; add whites of eggs beaten stiff, and beat until mixture begins to stiffen.
4. Turn into moistened mould, or pile lightly in serving-dish.
5. Serve with custard sauce.

NOTE.—1 white of egg and ⅓ c. cream, whipped, may be used instead of 2 whites.

PINEAPPLE SPONGE.

1. Make as Snow Pudding, using 1 tbsp. lemon-juice and 2 tbsp. *canned* pineapple-juice; fold in ½ c. grated pineapple just before turning into mould.

FROZEN DESSERTS.

GENERAL RULES.

1. Use rock salt and pound ice fine.
2. Scald can, dasher, and cover, and fit can into socket in pail.
3. Fill the space between the can and pail two-thirds full of ice before adding salt.
4. Add alternate layers of ice and salt, using eight measures of ice to one of salt, letting the mixture come a little above the height of the liquid in the can.
5. Never fill the can more than two-thirds full of the mixture to be frozen, to allow for expansion. Let stand until thoroughly chilled; turn crank very slowly until cream is rather stiff, and then increase the speed until mixture is stiff and of a fine texture.
6. Remove the dasher, scrape cream from the sides of the can, and level.
7. Drain water from the tub, fit cork into cover, and repack with ice and salt. If time of ripening is short, use 4 parts ice to 1 of salt; if longer, use 8 to 1.
8. Cover with heavy sack or newspapers; let stand at least 1 hr. before using.

FRENCH VANILLA ICE-CREAM.

2 c. milk.
1 tbsp. flour.
1 c. sugar.
¼ tbsp. salt.
1 qt. thin cream.
2 tsp. vanilla.
1 egg.

1. Measure all ingredients.
2. Mix together flour, sugar, salt, and egg.
3. Add scalded milk gradually.
4. Cook in double boiler until thickened, stirring constantly.
5. Cool; add cream and vanilla.
6. Strain, put into ice-cream freezer, and follow general rules.

VANILLA ICE-CREAM.

1 qt. thin cream.
1 c. sugar.
2 tsp. vanilla.
Pinch of salt.

1. Scald one-half the cream and dissolve the sugar in it.
2. Add remaining cream and vanilla.
3. Follow general rules.

FRENCH FRUIT ICE-CREAM.

4 c. fruit pulp and juice.
2 c. sugar.
4 c. thin cream.

1. Add sugar to fruit juice and pulp; let stand until dissolved.
2. Add cream and follow general rules for freezing.

MAPLE PARFAIT.

1 c. maple syrup.
4 egg-yolks.
2 c. cream (whipped).

1. Heat syrup to boiling; add gradually to egg-yolks slightly beaten; cook over hot water as a soft custard.

2. Chill; fold in whipped cream.
3. Pour into mould, pack, using 2 parts of ice to 1 part of salt.
4. Let stand 3–4 hr.

FRUIT SHERBET.

3 oranges.	3 c. sugar.
3 bananas.	3 c. water.
3 lemons.	3 egg-whites.

1. Squeeze juice from oranges and lemons; mash bananas.
2. Add water and sugar, and stir until dissolved.
3. Put into freezer, and freeze, using 8 parts of ice to 1 part of salt.
4. When of the consistency of mush, open the top carefully and quickly stir in the egg-whites beaten stiff.
5. Repack and finish freezing.

QUESTIONS—DESSERTS.

1. What is the difference between a Floating Island and a Baked Custard?
2. In each case, what is the proportion of eggs to 1 c. of milk?
3. Why do we strain custards?
4. Why do we bake custards in a pan of water?
5. What is the test for a soft custard? A steamed custard?
6. Which is the better source of energy, a steamed custard or a rice pudding? Why?
7. What makes a soft custard curdle? Why does water come on the surface of a baked custard?
8. Give an example of a pudding where starch is used to help thicken a custard.
9. What are the standard proportions in making a Blanc Mange? How do you vary it to make Chocolate Blanc Mange?
10. Name four fruit desserts.
11. Explain in detail how to make Lemon Snow.
12. How do you separate the starch-grains in a Blanc Mange? How did you do it in making a Cream Sauce?
13. Name four desserts suitable for winter. For summer.
14. From what is tapioca obtained? Sago? Corn-starch? Rice? Gelatine?
15. What effect has boiling water on gelatine? Cold water?
16. What are the standard proportions in making gelatine desserts?
17. How does the protein in gelatine compare with that in milk?
18. What effect has fresh pineapple-juice on gelatine? Has canned pineapple the same effect?
19. Why is a sweet dessert served at the end of the meal?
20. Is it a good plan in a lunch-room (cafeteria) to have the desserts first in the line? Why?
21. In planning a dessert for dinner, name three things that you would consider.
22. What proportion of ice to salt do you use in freezing ice-cream?
23. What is difference between ice-cream and sherbet?

CANDY.

Sugar exists in candy in concentrated form and is an energy- or fuel-giving food. However, it should not be eaten to excess nor before meals. If too much is eaten at a time, it is likely to ferment in the stomach and cause trouble.

GENERAL RULES.

1. Use a small amount of corn syrup to prevent grainy candy.
2. If desired, substitute for corn syrup ⅛ tsp. cream of tartar, or ½ tsp. of lemon-juice to 2 c. of sugar.
3. Do not stir candy while boiling as it tends to crystallize the sugar.

NOTE.—Brown sugar and molasses contain an acid which, if used in candies with milk, causes the milk to curdle. Therefore candy containing these two ingredients should be stirred while it is cooking.

4. When grains of sugar form on the sides of the pan, wash down with damp cheese-cloth on the end of a fork.
5. Cool candy before beating. Beating while hot causes large crystals to form and a grainy candy results.
6. Do not cool candy suddenly by placing in cold water as this tends to make it granular.
7. In substituting cocoa for chocolate in candy-making, use 3 tbsp. cocoa and ⅔ tbsp. butter instead of 1 square of chocolate.
8. Test candy, using water that is really cold. Drop a teaspoonful of syrup into the cold water. When the syrup is cooled by the water, it thickens and can be formed into balls of different degrees of hardness. A thermometer is a more reliable test.

Type of Candy.	Temperature.	Cold-water Test.
Fudge—Penuchi, operas, maple creams	234°–238° F.	Soft ball.
Fondant	238°–240° F.	Soft ball.
Caramels	246°–248° F.	Firm ball.
Taffies	265°–270° F.	Hard ball.
Butterscotch, toffee, etc.	290°–300° F.	Crack.
Brittles	300°–310° F.	Hard crack.
Clear hard candies	310° F.	Hard crack.

PEANUT BRITTLE.

2 c. sugar.
3 c. unshelled peanuts.

1. Shell peanuts; remove skin; roll fine or leave whole.
2. Melt sugar in frying-pan; stir constantly and do not allow to darken.
3. When melted, pour over nuts on platter (not greased).
4. Cool gradually; mark in squares while cooling.

TAFFY.

1½ c. brown sugar.
½ c. water.
1 tbsp. butter.
1 tsp. vinegar.

1. Mix sugar, water, and butter.
2. Stir only until sugar dissolves.
3. Add vinegar after taffy threads.

4. Cook until it cracks when dropped into cold water.
5. Pour on buttered pan; score before cold.

BUTTER-SCOTCH.

2 c. brown sugar.
¼ c. corn syrup.
1½ tbsp. vinegar.
2½ tbsp. water.
¼ tsp. salt.
¼ c. butter.
2 tsp. vanilla.

1. Mix sugar, syrup, vinegar, water, and salt in saucepan.
2. Heat slowly, stirring until sugar is dissolved; boil, without stirring, to brittle stage (290° F.).
3. When syrup has nearly reached 290° F., add butter; add vanilla just before turning out.
4. Pour on buttered pan; mark into squares before cold.

MOLASSES TAFFY.

1 c. white sugar.
1 c. brown sugar.
2 c. light molasses.
¼ c. butter.
⅛ tsp. soda.
¼ tsp. salt.
¾ c. water.

1. Put the sugars, molasses, and water into a saucepan and cook to 265° F. (hard-ball stage).
2. Cook the candy slowly and stir it during the latter part of cooking to prevent burning.
3. Remove from fire; add the butter, soda, and salt, and stir just enough to mix well. (Be sure soda is free from lumps.)
4. Turn into a greased pan and allow to stand until cool enough to handle.
5. Gather into a ball and pull until rather firm and of a light-yellow colour.
6. Stretch out in a long rope, cut into pieces, and wrap in waxed paper if it is to be kept.

MAPLE CREAM.

3 c. light-brown sugar.
1 tbsp. corn syrup.
⅔ c. milk.
2 tbsp. butter.
½ c. chopped nuts.
½ tsp. vanilla.

1. Put sugar, syrup, milk, and butter into a saucepan; heat gently, stirring until the sugar is dissolved.
2. Boil, without stirring, to soft-ball stage—234° F.
3. Remove from heat; cool gradually; beat until creamy.
4. Add nuts and vanilla; pour into buttered pan.
5. Mark in squares before it hardens.

NOTE.—To overcome the acid of brown sugar which may cause curdling of the milk, a few grains of baking-soda may be added to the sugar.

CHOCOLATE FUDGE, I.

1 c. white sugar.
1 c. brown sugar.
2 sq. chocolate.
1 tbsp. butter.
1 tbsp. corn syrup.
¾ c. milk.
1 tsp. vanilla.

Make as Maple Cream; cut chocolate into pieces and cook with sugar.

CHOCOLATE FUDGE, II. (MORE EXPENSIVE).

1 c. white sugar.
1 c. brown sugar.
¼ c. syrup.
½ c. sweet milk.
¼ c. melted butter.

1. Boil 2½ min.
2. Add ¼ c. cocoa.
3. Boil till it forms a soft ball when dropped into cold water, then take from the stove and add 1 tsp. vanilla. Cool slightly.
4. Beat until creamy.
5. Pour in buttered pan and mark in squares.

DIVINITY.

3 c. white sugar.
⅔ c. corn syrup.
¾ c. boiling water.
2 egg-whites.
½ tsp. vanilla.
½ c. chopped nuts.

1. Put sugar, syrup, and water into a saucepan.
2. Heat slowly; stir until sugar is dissolved.
3. Boil to firm-ball stage—250° F.; cool slightly.
4. Beat whites stiff; gradually add the syrup.
5. Continue beating until mixture begins to thicken.
6. Add nuts; pour into buttered pan.

NOTE.—Mixture may be dropped from a teaspoon on buttered pan; place bowl over hot water to keep mixture soft.

TURKISH DELIGHT, I.

3 tbsp. granulated gelatine.
½ c. cold water.
2 c. sugar.
½ c. boiling water.
1 orange, rind and juice.
3 tbsp. lemon-juice.

1. Soften gelatine in cold water.
2. Make syrup of sugar and water; when boiling, add gelatine; boil gently 20 min. Although boiling toughens gelatine, in this confection the toughness is not objectionable.
3. Remove from heat; add fruit-juices; strain; add rind; candied fruit and chopped nuts may be added. Vegetable colouring may be added, if desired.
4. Pour into a moistened pan.
5. When firm cut into squares, using a knife dipped in hot water.
6. Roll in icing or fruit sugar.

TURKISH DELIGHT, II.

1 pkt. gelatine (2 envelopes).
½ c. cold water.
4 c. sugar.
1 lemon-grated rind and juice.
1 c. boiling water.
1 orange-grated rind.

1. Soak gelatine in cold water.
2. Put sugar and boiling water in pan and stir until dissolved.
3. Boil 20 min., covered so no granules will form.
4. Pour syrup on gelatine.
5. Add rinds and fruit-juice.
6. Colour pink if desired, or omit orange and use other flavours.
7. Rinse tin in cold water.
8. Pour mixture into tin and let stand overnight.

9. Cut in squares and roll in icing-sugar or desiccated cocoanut which has been toasted in the oven.

SALTED ALMONDS OR PEANUTS.

1 c. shelled almonds or peanuts.
2 tsp. butter or olive-oil.
Salt.

1. Blanch the almonds and dry them, or remove the thin brown skin from the peanuts.
2. Place nuts in shallow baking-pan; put butter or oil over them.
3. Brown in a moderate oven, stirring frequently.
4. Drain on unglazed paper; sprinkle with salt.

STUFFED DATES.

Dates.
Nuts.
Peanut butter.
Butter icing.

1. Stone and clean dates.
2. Stuff them with nuts, peanut butter, butter icing made fairly stiff, or a combination of these.

NOTE.—The icing may be flavoured with lemon, orange, chocolate, or coloured slightly.

POPCORN BALLS.

6 qts. popped corn.
1 c. molasses or corn syrup.
1 c. sugar.
¼ tsp. salt.

1. Popcorn must be dry before it will pop.
2. Just before popping, the kernels should be moistened by putting the corn in a strainer and letting the water run through. Drain.
3. Heat gradually and evenly, using only enough corn in the popper at one time to cover the bottom of it. One cup of unpopped corn will make 5 cups of popped corn.
4. Pick over the corn to remove unpopped kernels.
5. Put other ingredients in saucepan and stir to mix it.
6. Heat the mixture without stirring until the syrup is very thick and is brittle when dropped into cold water (270° F.).
7. Put the corn into a large bowl. Add the syrup and stir. Let stand 1 min.
8. Dip the hands in cold water. Shake the water off the hands and press some of the corn into a ball. Repeat until all the corn is shaped into balls.

QUESTIONS—SUGAR AND CANDY.

1. What two chief sources of sugar have we?
2. Describe the process of manufacturing raw sugar from the sugar-cane.
3. What is molasses?
4. What is granulated sugar? Powdered sugar? Icing-sugar? Maple sugar? Brown sugar?
5. What effect has corn syrup on the texture of candy?
6. What is there in brown sugar and molasses that may cause milk to curdle in the making of candy?
7. How much did you spend for candy last month?
8. Should you eat candy before breakfast? Why?
9. Give two reasons for and against the eating of much candy.
10. What do you mean by the "soft-ball stage"? "The crack stage"?

MEAT.

Meat is chiefly that muscle-tissue of animals which is used for food, such as beef, veal, pork, mutton, lamb, and venison. Beef is obtained from the cow or steer; veal is obtained from the calf; pork from the pig; mutton from the sheep; lamb from the lamb; and venison from the deer.

As we buy the meat at the store we find it is made up of the following parts: Muscle, bone, fat, and juice.

HOW TO JUDGE GOOD MEAT.

Beef.

Good beef should be firm, fine-grained, bright red in colour, and with fat well distributed. The fat should be firm and of a yellowish colour. The suet should be dry and crumble easily.

Mutton or Lamb.

Good mutton should be fine-grained and of a bright-pink colour; the fat should be hard, white, and flaky. The outside skin should come off easily.

Veal.

Good veal should have pinkish-coloured flesh and white fat. When flesh lacks colour it has been taken from a creature which was too young to be used for food.

Pork.

Good pork should have pinkish-coloured flesh and white fat. Pork that has dark spots on it is not fit for use.

STRUCTURE OF MEAT.

In studying the structure of meat we are mostly concerned with that part known as the muscle. The muscle is made up of many *fibres* as fine as a hair. These fibres are hollow tubes held together by a tough substance called *connective tissue*. You will notice that some beef can easily be torn into shreds after it has been stewed. In the process of cooking, the connective tissue has been softened into a jelly-like substance so that the fibres can be separated.

In these hollow tubes there is a red liquid which is called the juice of the meat. This juice is largely water in which are dissolved *extractives* which give the flavour to the meat, and also some protein called albumen, resembling that protein in milk which appears in the form of a scum on the surface of the milk when heated.

COMPOSITION OF MEAT.

Meat is of value to the body largely because of its protein, fat, and minerals. The proteins of meat are of excellent quality. The protein found in the fibres is called myosin; that found in the juice is called albumen.

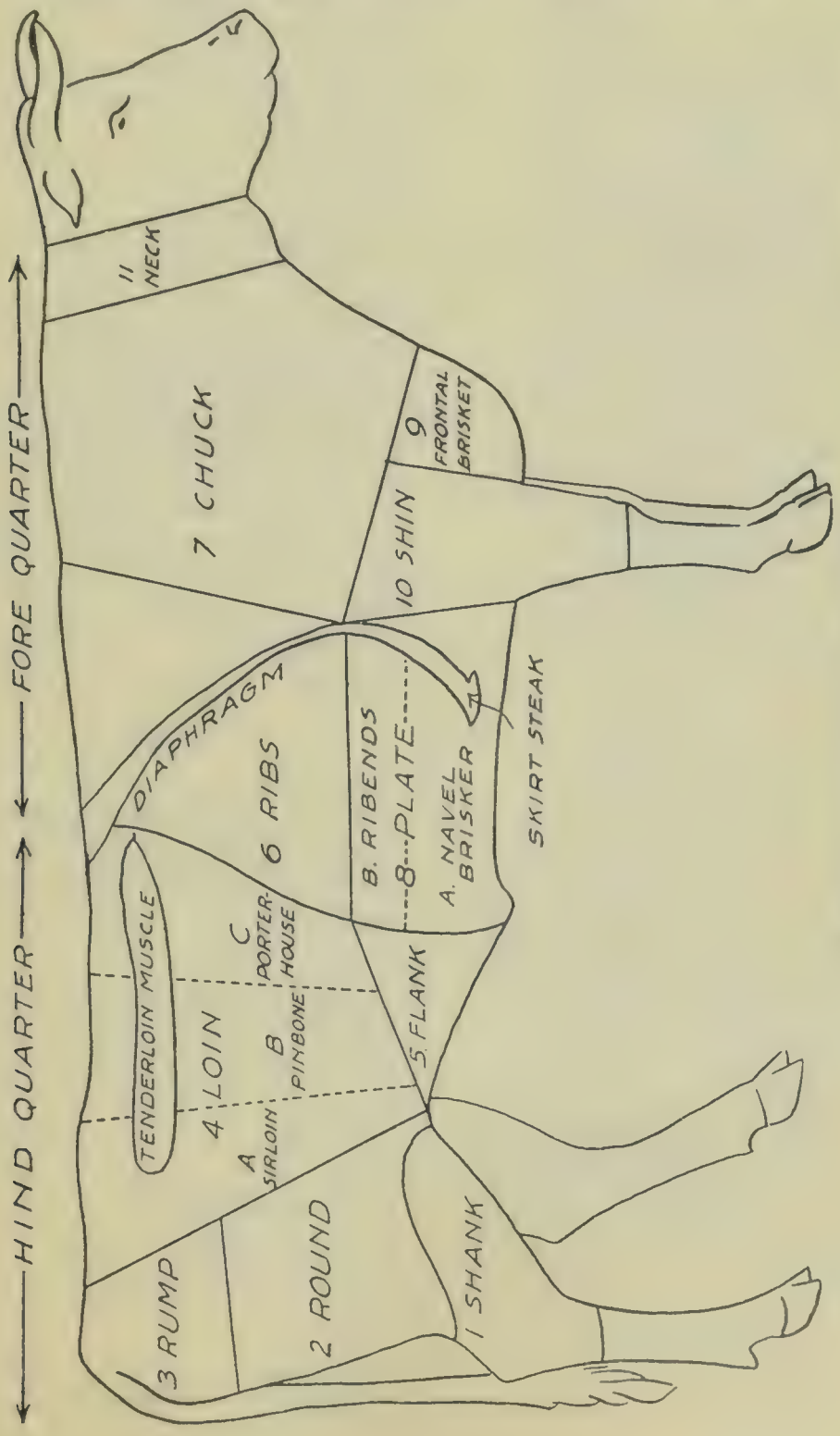
The fat is found not only around the muscle, but sprinkled through the lean part. Fat is also served with the gravy.

The mineral matter is largely iron and phosphorus. Meat has very little calcium. Because of its iron content, meat is valuable in producing good red blood.

Meat contains about 60 per cent. water. It is due to the evaporation of some of this water that meat shrinks in the process of cooking.

Meat contains flavouring materials called extractives. These extractives are of no food value, but give the meat its delightful flavour and in that way add much to the enjoyment of a meal in which meat is served. They stimulate the appetite and the flow of digestive juices.

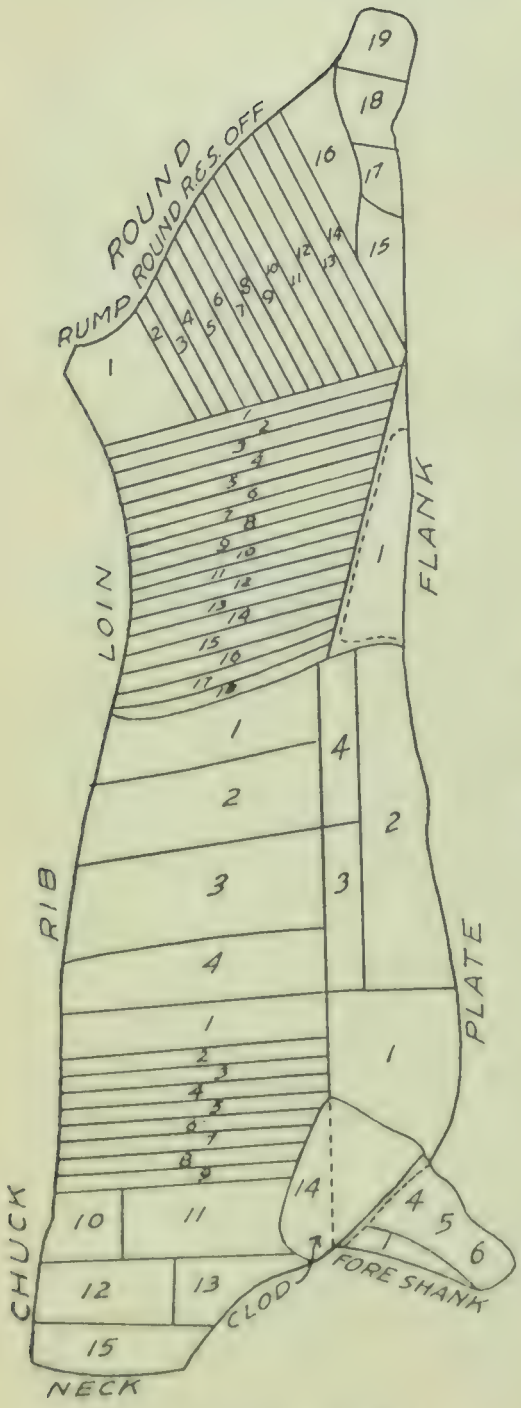
Meat is lacking in carbohydrates, and because of that lack it is usually served with potatoes. As a source of vitamins meat is relatively unimportant. Glandular organs are good sources of Vitamin G (B_2).



WHOLESALE CUTS OF BEEF. (*Canadian Cook Book.*)

RETAIL CUTS OF BEEF.

Hind Quarter.



(Canadian Cook Book.)

Round: Rump—

1. Rump.

Round: Rump and Shank off—

2. Round steak, first cut.
3–13. Round steaks.
14. Round steak, last cut.
15. Knuckle soup-bone.
16. Pot roast.

Hind Shank—

17, 18. Soup-bones.
19. Hock soup-bone.

Loin—

1. Butt-end sirloin steak.
2. Wedge-bone sirloin steak.
3, 4. Round-bone sirloin steak.
5, 6. Double-bone sirloin steak.
7. Pin-bone sirloin steak.
8. Pin-bone porterhouse steak.
9, 15. Regular porterhouse steak.
16, 18. Club steaks.

Flank—

1. Flank steak.
2. Stew.

Fore Quarter.

Rib—

1. 11th and 12th rib roast
2. 9th and 10th rib roast
3. 7th and 8th rib roast
4. 6th rib roast

} prime ribs.

Chuck—

1. 5th rib roast.
2–9. Chuck steaks.
10–13. Pot roasts.
14. Clod.
15. Neck.

Plate—

1. Frontal brisket.
2. Navel brisket.
3, 4. Rib ends.

Fore Shank—

1. Stew.
2. Knuckle soup-bone.
3–6. Soup-bones.

AMOUNT OF MEAT ADVISED.

According to the plan of buying foods on page 22, only one-fifth of a dollar spent for food should be spent for meat, fish, and eggs. It is advisable to serve meat *only* once a day. Too much meat is apt to cause digestive disturbances, causing a " dark-brown taste " in the mouth.

CUTS OF PORK.

1. *Ham.*—It is more economical to buy a whole ham. The butt can be baked; the centre sliced, fried, or broiled; the shank boiled; and the rind used for seasoning.

2. *Loin.*—Roasts and chops.

3. *Belly.*—Used for bacon. The best grade of bacon, " Certified " brand, is the heart of this cut.

4. *Fat Back.*—Smoked or pickled.

5. *Spare Ribs.*

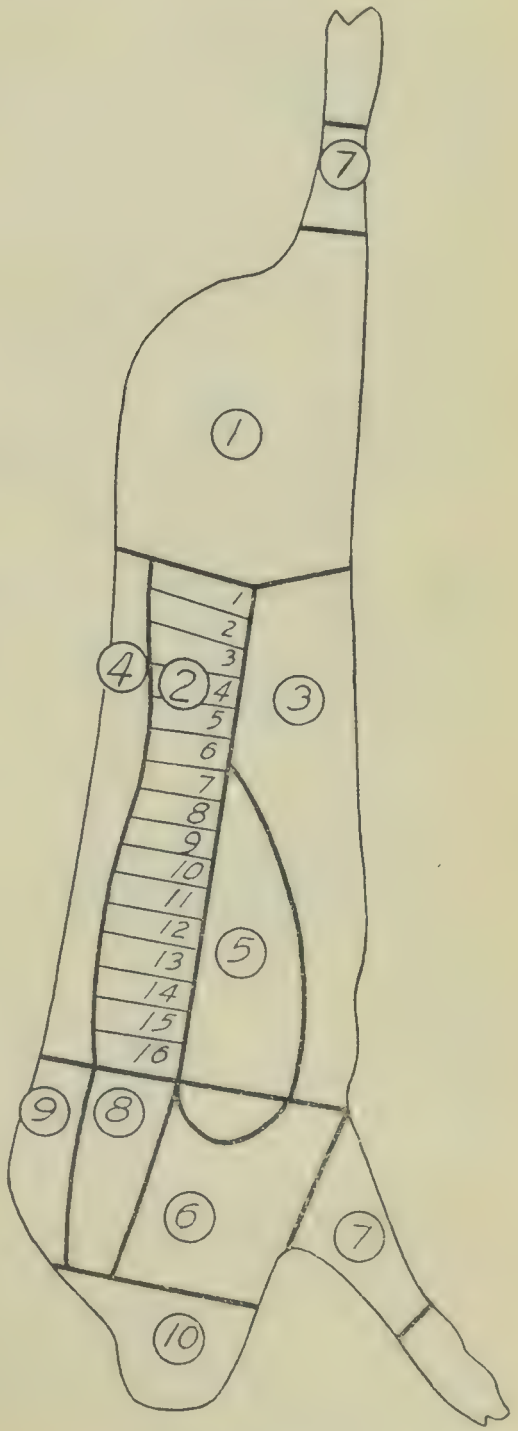
6. *Picnic Butt (Shoulder).*—Roasts, steaks, chops, hams.

7. *Hock.*—Pickled and stewed.

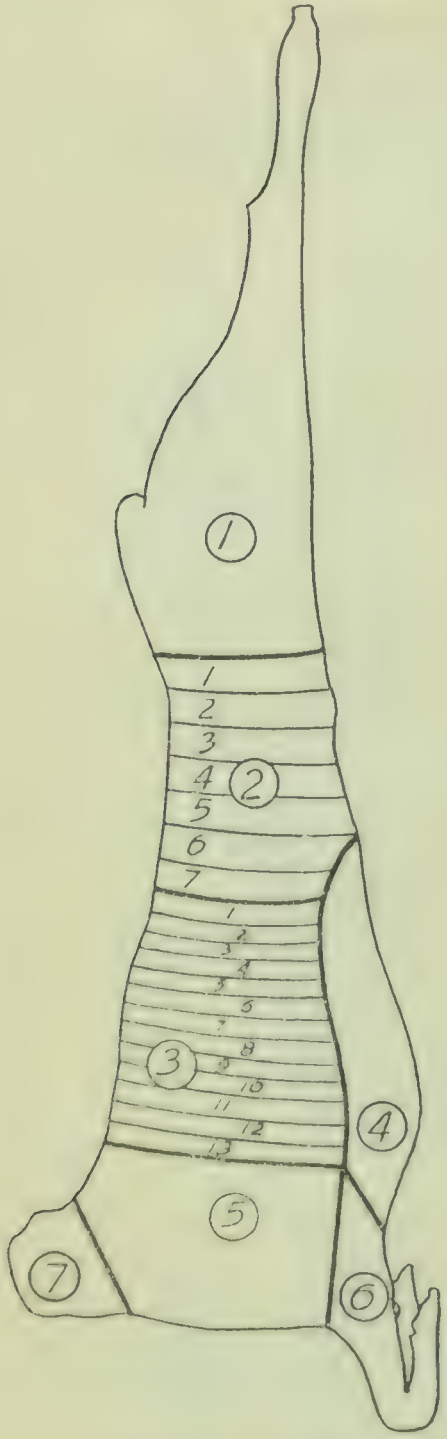
8. *Boston Butt.*—Steaks and roasts.

9. *Clear Plate.*—Pickled and smoked.

10. *Jowl.*—Used for cheap bacon and generally cooked with baked beans.



(Canadian Cook Book.)



(Canadian Cook Book.)

MUTTON AND LAMB CHOPS.

1. *Leg.*—Roast.

2. *Loin.*—Roasts and chops.

3. *Ribs (or Hotel Rack).*—Roasts and chops.

4. *Breast.*—Roasts and stews.

5. *Chuck (Shoulder).*—Roasts and stews.

6. *Shank.*—Broth, soups, and stews.

7. *Neck.*—Broth, soups, and stews.

TOUGH AND TENDER MEAT.

Meat is tough or tender, depending on the connective tissue. When an animal is young the connective tissue is very tender, but when the animal grows old the connective tissue in the muscles increases in quantity and toughness. Also, when any muscle is used a great deal, such as the neck of the animal, the connective tissue toughens, making what we call a tough cut of meat. Those muscles that get little exercise are tender. (*See* chart.)

Age and *exercise*, then, are the two main factors in making meat tough. The wrong method of cooking may be a third factor. Many a good steak is ruined between the butcher's and the table.

Tender cuts of meat are much more expensive than the tough cuts. The flavour of these cuts is good and they are quickly cooked. *However, they are no more nutritious than the tougher cuts, which are much cheaper.* There are more extractives in the tougher cuts, so that when they are properly cooked they are richer in flavour.

The tender cuts of meat are those taken from the back of the animal; e.g., the loin and ribs used as roasts, steaks, and chops. A round steak is taken from the leg, and while the upper round is less tough than other parts of the animal that get a lot of exercise, it is still advisable to treat a round steak as a tough cut from the standpoint of cooking. The shoulder and leg of lamb, mutton, and veal are considered tender cuts owing to lack of age and inactivity of the animal from which they are taken.

Tougher cuts of meat are those taken from the parts of the animal getting the most exercise; e.g., shanks, neck, navel, brisket, chuck, rump, round, etc. These are cooked as stews, pot roasts, or boiled meat.

The meat from well-fed animals is more tender and juicy than that from animals deprived of good care and feeding. If meat is eaten soon after being slaughtered, it is tougher than meat that is hung and ripened.

PRINCIPLES OF COOKING MEAT.

If meat of a rich flavour is to be served, efforts must be made to prevent any loss of this juice which contains the flavouring. This is done by a process known as *searing*. In searing, a high temperature is used to thicken or coagulate the albumen in the juice, which closes the mouths of the tubes and prevents the juice from escaping.

METHODS OF SEARING.

1. Browning in an uncovered pan in a hot oven 450° F. to 500° F.
2. Browning in hot fat in a frying-pan on the surface burner.
3. Adding boiling water and cooking at boiling temperature until the outside of the meat has lost its red colour.

TO MAKE SOUP.

When we wish to make soup, the object is to extract as much juice from the meat as possible so that the flavour will largely be in the liquid. In order to do this we do not sear the meat, but put it into cold water and bring it slowly to simmering-point and simmer for several hours.

Meat from which soup has been made is tasteless owing to the fact that the extractives have been largely taken out. From the standpoint of nourishment the meat is still valuable, and by adding seasonings, such as onion, it can be made palatable to the taste.

Since meat is a protein food, if the high temperature used in searing were continued throughout the process of cooking, it would cause even a tender cut of meat to become tough. Consequently the heat is reduced (350° F.) so as to give a tender, juicy product.

Tough cuts of meat must be cooked with moist heat; i.e., with water in the pan, as by pot-roasting, stewing in a pan or casserole, or boiling. Only

moisture will soften tough connective tissue. It may be broken up by chopping, as in Hamburg steak.

Tender cuts of meat can be cooked satisfactorily without water; i.e., by dry heat, such as broiling, pan-broiling, and roasting.

REASONS FOR COOKING MEAT.

1. To develop flavour.
2. To soften the connective tissue when present in large quantity.
3. To kill any living organisms that may be present.
4. To retain juices as inbroiling or roasting.
5. To extract juices as in soups or beef tea.

METHODS OF COOKING.

I. By Application of Dry Heat. (Used only for tender cuts.)

Broiling.—The meat is placed under the gas-flame or over glowing coals, thus searing the outside and retaining the juices. The temperature at first should be high enough to form the albuminous coating on the surface; then the heat should be modified to cook the interior without a loss of nutrients or a toughening of the protein.

Pan-broiling.—The meat is cooked in a hot frying-pan without any fat. The hot metal sears the surface just as a hot flame does in broiling.

Roasting.—The meat is cooked in a roasting or baking pan in the oven. Sufficient moisture and fat is contained in the meat to furnish the moisture for cooking and basting.

II. By Application of Moist Heat. (Used always for tough cuts.)

Boiling.—This is immersing the meat in boiling water and cooking at a temperature below the boiling-point (180°–210°F.).

Stewing.—This is long, slow cooking in a limited quantity of water below the boiling-point. The meat is cut in small pieces and browned first to retain the juices and give it a good rich flavour. The pot is tightly covered and the enclosed steam assists in the cooking. The nutrients drawn out in the liquid by stewing are saved when the liquid is served with the meat as gravy.

Pot-roasting.—The meat is cooked in a kettle on the top of the stove by first searing the surface of the meat on all sides by contact with the hot metal, or hot fat, then adding a small quantity of water to create steam to carry on the cooking process.

III. By Cooking in Fat, as in:—

Frying.—This is cooking in deep fat. To prevent absorption of fat by meat when fried, the fat must be hot enough to sear the surface of the meat as soon as put in. The fat is never hot enough until it ceases to bubble. *For cooked mixtures* an inch cube of bread should turn a golden-brown in 40 sec.; *for uncooked mixtures* it should turn a golden-brown in 60 sec.

Sautéing.—This is cooking in a small amount of fat. Put 1 tbsp. of fat in a frying-pan. When hot, add the food to be cooked; stir or turn occasionally until brown and well cooked.

NOTE.—Too much fat and too low a temperature in cooking makes food greasy and very difficult of digestion.

GENERAL RULES.

1. Remove meat from paper as soon as it comes from market; weigh, and wipe with a damp cloth. Meat should not be washed as it causes a greater loss of juice.

2. Place in a granite or earthenware dish; cover and keep in a cool place until time of using.

3. Broil, pan-broil, or roast only tender cuts of meat. When meat is to be cooked by any of these methods, it is first seared at a high temperature, then cooked at a lower temperature, so as not to toughen the protein. In searing, the protein in the juice is coagulated; the cut ends of the tubes are thus closed and the juices are retained. The juice of the meat contains extractives which give to meat its characteristic flavour. Extractives are useful only in stimulating the appetite and in stimulating the digestive juices.

4. Cook all tough meats in moist heat to make tender the tough connective tissue. Sear meat with boiling water or hot fat so that the juices may not be drawn out. When seared, the temperature should be reduced and meat cooked until tender, just below the boiling-point.

5. Tough connective tissue may be softened: (*a*) By moist heat; (*b*) by pounding; (*c*) by chopping, as Hamburg steak.

6. For *roasts* weighing less than 8 lb. allow 15–20 min. to the lb. and 15 min. extra.

7. For *tough cuts* weighing less than 8 lb. allow 30 min. to the lb. and 30 min. extra.

8. Increase the time of cooking for pork (20–30 min. to the lb.) as it should be thoroughly cooked to kill the trichinæ.

9. In making meat stock, add cold water to the meat; bring to simmering-point and simmer for several hours. This extracts the juices, making a richly flavoured stock.

10. Meat left after making soup can be prepared as any left-over meat, using seasonings or beef extract to add flavour.

LAMB CHOPS (BROILED).

1. Prepare meat as in general rules.
2. Follow general rules for pan-broiling.
3. Cook or broil 6 min.
4. Let chops stand on edge in the frying-pan to brown the outside fat.
5. Drain on plain paper and spread with butter.

NOTE.—Chops may be boned, rolled, and cooked as above.

OVEN ROAST.

1. Prepare meat as in general rules.

2. Place on a rack in dripping-pan and dredge meat and bottom of pan with flour.

3. Follow general rules for roasting, basting every 15 min. if open roaster is used. Basting is not necessary in a covered roaster. If flour in pan burns, add a small quantity of water while the meat is cooking. Serve with brown gravy.

BROWN GRAVY.

1. Estimate fat in pan.
2. Add the same quantity of flour with seasoning to taste.
3. Add boiling water to make the consistency of medium white sauce.

4. Cook until no taste of raw starch.
5. Season with salt and pepper.

BROILED STEAK (OVEN).

Steak, 1–2 inches thick. Butter, salt, pepper, parsley, and lemon for garnishing.

1. Prepare meat as in general rules.
2. Have the broiler smoking hot and rub with a little fat.
3. To sear, turn every 10 sec. for the first minute.
4. Finish cooking, turning every 2 min. Time for cooking: Steak, 1 inch thick, 5–8 min.; steak, 1½–2 inches thick, 7–12 min.
5. Remove to hot platter, spread with butter, and sprinkle with salt and pepper.
6. Garnish with parsley and slices of lemon.

PAN-BROILED STEAK.

Steak, ¾–1 inch thick. Salt, pepper, butter.

1. Prepare meat as in general rules.
2. Heat pan till smoking hot. Place steak in pan and finish as for Broiled Steak.

MINT SAUCE.

½ c. mint-leaves chopped fine. 2 tbsp. powdered sugar.
1 c. hot vinegar.

1. Dissolve the sugar in the vinegar and pour over the chopped mint-leaves.
2. Let stand 30 min. to infuse.
3. If the vinegar is very strong, dilute with water. Serve hot.

POT ROAST.

1. Prepare meat as in general rules.
2. Follow rules for pot-roasting, and 1 hr. before cooked add any vegetables desired.
3. Cover tightly; cook below boiling-point until the meat is tender.
4. Add hot water as needed; season when partly cooked.
5. Place on platter; arrange vegetables around the roast.
6. Serve with brown gravy.

MEAT STEW.

1½ lb. tough meat.
1 small onion.
⅓ c. turnips cut in inch cubes.
⅔ c. carrots cut in inch slices.
1½ tsp. salt.
⅛ tsp. pepper.
½ c. flour.
3–4 potatoes cut in ¾-inch slices.

1. Wipe the meat, remove fat, and cut meat in 1-inch pieces.
2. Cover coarser pieces and bone with cold water; let soak 1 hr. and heat to boiling.
3. Season remainder of meat; roll in flour.
4. Try out fat in frying-pan; brown the meat and onion in the fat.
5. Add meat and onions to the stew; cook below boiling-point 2 hr.
6. After the meat has cooked 1¼ hr. add turnips and carrots; add potatoes 15 min. later.

7. Remove bones; thicken stock with flour and seasonings mixed to a paste with cold water.
8. Cook until thick; serve with dumplings.

DUMPLINGS.

2 c. flour.
4 tsp. baking-powder.
½ tsp. salt.
2 tsp. butter.
¾ c. milk or water.

1. Mix as for baking-powder biscuits.
2. Drop from a tablespoon on top of stew.
3. Cover closely and cook for 10 min. without lifting cover.
4. Arrange around the meat on platter and serve at once.

SWISS STEAK.

2 lb. round steak 1–1½ inch thick.
⅓ c. flour.
1 tsp. salt.
⅛ tsp. pepper.
2 tbsp. dripping.
1 slice onion.
2 c. boiling water, or
1 c. water and 1 c. strained tomatoes.

1. Wipe meat; place on board.
2. Dredge with mixed flour and seasonings.
3. Pound flour into meat, using wooden potato-masher or edge of heavy plate.
4. Heat frying-pan very hot; put in fat.
5. Brown meat on each side.
6. Add onion, boiling water, and tomato.
7. Cover tightly; cook below boiling-point 2 hr.

NOTE.—Meat may be cooked in this way in a casserole in oven. Vegetables, as green peppers and carrots, may be added.

HAMBURG STEAK.

1½ lb. raw lean beef minced.
1 tsp. salt.
⅛ tsp. pepper.
1 tsp. parsley, finely chopped.

1. Add seasonings to the meat; mix thoroughly.
2. Shape into firm, flat cakes ¾ inch thick.
3. Pan-broil. (*See* "Methods of Cooking Meat," page 128.)

MEAT LOAF.

1 egg.
½ c. water or tomatoes.
1½ lb. chopped beef.
1 c. soft bread-crumbs.
2 tsp. salt.
⅛ tsp. pepper.
½ tsp. grated onion.
1 tsp. chopped parsley.
4 strips bacon.

1. In a mixing-bowl beat the egg and add water or tomatoes.
2. Add the other ingredients and mix well.
3. Pack into a greased pan. Cover with strips of bacon.
4. Bake in a moderate oven for 45–60 min.
5. Serve with gravy or tomato sauce.

LEFT-OVERS.

SHEPHERD'S PIE.

2 c. minced cooked meat.
Salt and pepper.
1 tsp. grated onion.
½ c. left-over gravy or meat stock.
3 c. mashed potatoes.
1 egg (if desired).

1. Mix meat, seasonings, and gravy; heat.
2. Worcestershire sauce, tomato catsup, or parsley may be added.
3. Warm left-over potatoes; beat well; add seasonings and egg, if desired; add milk if necessary to make proper consistency.
4. Butter a baking-dish; add the meat mixture and put a layer of potatoes on top.
5. Bake in a hot oven until potatoes are browned.

Variation.

Substitute a rich biscuit crust for the potato crust.

CHARTREUSE OF RICE AND MEAT.

1 c. rice.
2 qt. boiling water.
1 c. stock.
1 pt. cold meat or fish.
1 c. tomato sauce.
1 egg.

1. Cook the rice in the boiling water until tender.
2. Drain and line mould ½ inch deep.
3. Beat the egg slightly and mix with the finely cut meat; then add the stock.
4. Fill the centre of the mould with meat mixture; cover the top with rice and steam 30 min.
5. Turn from the mould and serve with tomato sauce.
6. Mashed potato may be used in place of rice.

QUESTIONS.

1. Name the different kinds of meat and the animal from which each is taken.
2. What are the parts of meat as we bring it from the store?
3. What is connective tissue? Where is it found? Of what value is it?
4. Name two things that will toughen connective tissue.
5. How can we soften connective tissue by cooking?
6. What parts of the animal are likely to have tough connective tissue?
7. What is meant by cooking meat by dry heat?
8. Name three methods of cooking by moist heat. Name three methods of cooking by dry heat.
9. What are extractives? Of what value are they?
10. In what cuts of meat do we find the greatest abundance of extractives?
11. Why is soup-meat flat to the taste? What should be done with it?
12. How do we sear meat? Of what value is searing?
13. What do we mean when we say protein "coagulates"?
14. What does the juice of the meat contain?
15. What do the fibres of the meat resemble?
16. Why is the wrapping-paper on the meat frequently red?
17. Should we wash meat? Why?

18. From what part of the animal do we get the following cuts: Round steak; T-bone steak; sirloin steak; chuck; shank; brisket; rump roast; rib roast? What is the price of each per pound?
19. Why do we not sear the meat when we wish to make soup?
20. Should round steak be cooked by moist heat? Why?
21. Why do we sear meat at a high temperature and then finish cooking at a moderate temperature?
22. Why is meat valuable in the diet?
23. Why is meat usually served with potatoes?
24. How often should meat be served in the day?
25. Is meat as valuable as milk for building bones? Why?
26. What causes spoilage of meat?
27. Which is more expensive, a sirloin steak or a round steak? Why?
28. Name three meat substitutes.
29. Explain how to cook a T-bone steak; a brisket; Hamburg steak.

FISH.

GENERAL COMPOSITION.

Fish is composed of muscle consisting of bundles of fibre bound together by connective tissue. This muscle is composed of protein, fat, mineral matter, and water. The connective tissue of fish is less in quantity and more tender than that found in meat.

FOOD VALUE.

Fish is a meat substitute. It is less stimulating owing to the lack of extractives, but is more easily digested due to the small amount of connective tissue. Fish is rich in protein, calcium, phosphorus, and iodine (salt-water fish). Because of its high protein content, a moderate temperature is required for cooking.

CLASSIFICATION OF FISH.

I. According to Where they Live.

(*a.*) Fresh-water fish, as pike, brook-trout, and whitefish.
(*b.*) Salt-water fish, as salmon, halibut, cod, and herring.

II. According to Composition.

(*a.*) Dry or lean fish, as cod, pike, haddock, brook-trout, halibut, flounder, and perch.
(*b.*) Fat or oily fish, as salmon, salmon-trout, herring, mackerel, tuna fish, and red snapper.

III. According to Covering.

(*a.*) Fish with scales.
(*b.*) Shell-fish, as oysters, clams, and shrimps.

HOW TO JUDGE FRESH FISH.

1. The gills are bright, red, and clear.
2. The eyes are bright and full.
3. The flesh is firm; the tail not drooping.
4. The scales do not come off easily and there is no disagreeable odour.

Fish decomposes quickly and so there is greater danger from poisoning than in other foods.

CARE OF FISH.

1. Keep in cool place until ready to use.
2. Do not place in refrigerator unless tightly covered. Why?
3. All utensils used in the cooking of fish should be washed in salted water.

CLEANING OF FISH.

1. Remove scales. Hold fish by tail; loosen scales with knife, keeping knife close against the fish, to prevent scales from flying. Fish may be scaled under water in a large pan, so that scales will not fly about. Remove fins.
2. Remove head and tail. These are sometimes left on if fish is to be baked, also in the case of small fish, as smelts. If head is left on, remove eyes, using a sharp knife or a pair of scissors to loosen membrane.
3. Wash inside and out; sprinkle inside of fish with salt; then wash thoroughly with cold water; rinse and dry.

TO BONE FISH.

1. Clean fish; remove head, tail, and fins.
2. Remove larger bones near the head; then slip a sharp knife under flesh close to the backbone.
3. Work the flesh from the bones on one side, from head to tail, then from the other side.
4. Remove all small bones remaining.

REASONS FOR COOKING FISH.

1. To soften connective tissue.
2. To improve appearance and flavour.
3. To retain juices.
4. To extract the juice as in chowder.

BAKED FISH.

1. Prepare fish for cooking; sprinkle inside with salt.
2. Fill with fish dressing; sew edges together.
3. Skewer fish in shape; wrap tail in greased paper.
4. Place in greased baking-pan.
5. Lay strips of salt pork over top of fish; hold in place with toothpicks.
6. Dredge with flour; place pieces of fat pork in pan around the fish.
7. Bake about 10 min. to the lb. and 10 min. extra; baste every 10 min. with fat in pan.
8. Lift out carefully; remove skewers and paper.
9. Garnish with parsley and lemon; serve with Tomato or Tartar Sauce. (*See* page 136.)
10. Fish may be wrapped in oiled paper and baked.

FISH DRESSING.

1 c. bread-crumbs.
¼ tsp. salt.
⅛ tsp. pepper.
Cayenne.
1 tsp. onion-juice.
1 tsp. chopped parsley.
1 tsp. capers or chopped pickles.
2 tbsp. butter.

1. Mix seasoning with crumbs and add to melted butter.
2. Moisten with milk or an egg, if a more moist stuffing is desired.

STEAMED FISH.

1. Prepare fish for cooking; place on plate.
2. Cover with cheese-cloth; steam over gently boiling water.
3. Time, about 10 min. to 1 lb. and 10 min. extra.
4. Serve with Tomato, Tartar, or White Sauce.

BOILED FISH.

1. Wrap fish in cheese-cloth to prevent breaking.
2. Cook whole in enough boiling water to cover, to which is added salt and lemon-juice or vinegar. Vinegar helps to coagulate the protein and thus holds fish together. More nutrients are lost when fish is boiled than when prepared any other way.

SCALLOPED SALMON.

1 can salmon. 1 c. white sauce.
1 c. bread or cracker crumbs.

1. Take out all bones and skin from the fish.
2. Butter a baking-dish; put in a layer of fish, then a layer of buttered and seasoned crumbs, then a layer of fish, then crumbs.
3. Pour the white sauce over; cover the top with buttered crumbs and brown in the oven.

FINNAN HADDIE.

1. Select fish thick and heavy for its size.
2. Soak 1 hr. in cold water; drain.
3. To remove skin: (*a.*) Place in pan, skin side up; put into hot oven; leave 10–15 min., when fish will be heated through; lift out; remove skin. Or (*b.*) Place in pan; cover with boiling water, keep just below boiling-point 10 min.; drain; remove skin.
4. Serve with white sauce, if desired.

KIPPERED HERRING.

1. Soak in hot water 20 min. to remove excess salt.
2. Cook as Finnan Haddie.

SALMON SALAD.

Use equal quantities of cold, flaked salmon and shredded cabbage. Season and add salad dressing. Garnish with sweet pickle, if desired.

FISH LOAF.

2 c. cooked fish, flaked.
1 c. bread-crumbs.
½ tsp. salt.
¼ tsp. paprika.
½ tsp. grated onion.
1 tsp. lemon-juice.
2 eggs.
½ c. milk.
1 tbsp. finely chopped parsley.

1. Mix all together (more milk may be added if fish is dry).
2. Turn into buttered mould; cover.
3. Cook in oven or steam until firm in centre, about ½ hr.

HALIBUT A LA CREOLE.

1 lb. halibut.
1 c. tomatoes.
½ c. water.
1 tsp. sugar.
1 slice onion.
2 whole cloves.
2 tbsp. butter.
2 tbsp. flour.
½ tsp. salt.
Pepper.

1. Cook tomatoes, water, onion, cloves, and sugar together for 10 min.
2. Melt butter and add flour and seasonings and stir until smooth.
3. Add the tomato mixture to the flour mixture and cook 5 min. Strain.
4. Prepare fish and put in casserole.
5. Add half of the tomato mixture and bake until the fish separates from the bone easily.
6. Baste every 10 min. during baking.
7. Serve on a platter with the remainder of the hot tomato sauce.
8. Garnish with parsley.

TOMATO SAUCE.

1 c. tomatoes.
½ c. water.
1 slice onion.
1 tsp. sugar.
2 whole cloves.
2 tbsp. butter.
2 tbsp. flour.
½ tsp. salt.
Pepper.

1. Cook the tomatoes, water, onion, cloves, and sugar together for 10 min.
2. Melt the butter; add the flour and stir until smooth.
3. Add the tomato mixture to the flour mixture; add seasonings and cook 5 min.

WHITE SAUCE FOR FISH.

1 c. milk.
2 tbsp. butter.
Salt and pepper to taste.
1 tbsp. flour.

Make as for White Sauce.

TARTAR SAUCE.

½ c. mayonnaise dressing.
1 tsp. chopped pickle.
1 tsp. parsley (washed and chopped).
1 tsp. chopped olives.

Mix the parsley, pickle, and olives, and add them to the mayonnaise dressing.

QUESTIONS.

1. How may we prevent fish from breaking while boiling or steaming? Why does it break so easily?
2. Is fish a meat substitute? Why?
3. What minerals are supplied by the use of fish?
4. What effect has a scarcity of iodine on the human system?
5. Name some suitable fish garnishes.
6. Name three ways of cooking fish.
7. Why should we endeavour to eat more fish in B.C.?
8. What kind of fish is caught in your nearest lake or harbour?
9. What kinds of fish are there? Name ten. Classify them according to their composition.
10. What foodstuff is lacking in fish?

POULTRY.

FOOD VALUE.

Chicken is more delicate in flavour than meat. It is more easily digested because of the short muscle-fibres and the small amount of fat in the muscle. The light meat of poultry is more tender but poorer in flavour than the leg, owing to the fact that the leg has more exercise and consequently more extractives.

SELECTING POULTRY.

1. Spring chickens are those about 5 months old. A chicken over a year old is called a fowl. Poultry has a better flavour when full-grown than when too young.
2. Chicken to be tender should be plump in appearance, have small soft legs and feet, and smooth moist skin.
3. The end of the breast-bone should be flexible and the joint of the wing should yield readily when turned backward.

METHOD OF PREPARING POULTRY.

1. Weigh; remove the pin-feathers without breaking the skin; singe over a flame to remove hairs.
2. Cut off the head and feet.
3. Turn back skin and cut neck close to the body, if desired.
4. Remove windpipe and crop.
5. Remove oil-bag from tail.
6. Take out internal organs—cut through skin over intestines and around vent; insert fingers and loosen skin around internal organs; draw from behind the gizzard, and take out gizzard, liver, and intestines, being careful not to break the gall-bladder on the liver. Remove lungs and kidneys.
7. Wash fowl inside and out with lukewarm, salted water; rinse in cold water; wipe inside and out, and just before stuffing sprinkle inside lightly with salt.
8. *Prepare Giblets.*
   (*a.*) *Heart.*—Press to extract blood; wash in cold, salted water.
   (*b.*) *Liver.*—Cut away gall-bladder carefully; wash liver in salted water.
   (*c.*) *Gizzard.*—Remove fat; cut in through the thick part to the sac; remove outer part from sac. Cut away the thick white lining; wash gizzard in salted water.
9. *Cook Giblets.*—Cut gizzard in small pieces; cover gizzard and heart with cold water; heat to boiling-point, and reduce heat, cooking until tender. When these have cooked 1 hr., add liver. The neck may be cooked with the giblets.

ROAST CHICKEN.

1. Dress, clean, and stuff chicken.
2. Truss for roasting by turning tips of wings under back; press legs close back against body; hold in place with a skewer; tie a cord around ends of skewer and across the back.
3. Place on its back on a rack in roasting-pan.
4. Place strips of bacon over breast or cover with a paste of 3 tbsp. butter and 2 tbsp. flour.

5. Place in hot oven to start the cooking quickly; then reduce heat.
6. Baste every 10 min. with fat in pan or with 2 tbsp. dripping in 1 c. boiling water.
7. Turn during cooking to brown chicken evenly.
8. Roast 15–20 min. to the lb. and 20 min. extra.
9. Serve with brown gravy.

DRESSING.

2½ c. bread-crumbs.	1 tsp. salt.
2½ tbsp. melted butter.	⅛ tsp. pepper.
1 tsp. summer savoury or thyme.	1 tbsp. chopped parsley.

1. Add crumbs to melted butter; mix with a fork.
2. Add seasonings. If a moist dressing is preferred, add ¼ c. hot milk.

NOTE.—If fowl is not very young, dress as above; then place in roasting-pan; add 1 c. boiling water; cover tightly. Roast, allowing 25–30 min. to the lb. and 25 min. extra. Uncover during last 45 min. to brown.

TO CUT CHICKEN FOR STEWING.

1. Dress and clean chicken.
2. Cut off legs; separate into drumstick and thigh.
3. Cut off wings; remove tips.
4. Cut behind the wishbone and separate it from breast.
5. Separate breast from back by cutting through ribs.
6. Cut the back into two pieces crosswise.

STEWED CHICKEN.

1. Cut chicken into pieces for serving.
2. Cover with boiling water; boil 5 min.
3. Reduce heat; cook below boiling-point until tender.
4. Add ½ tbsp. salt after first half-hour.
5. Drain stock from chicken; measure; make up to required amount with milk or water. Thicken as for medium white sauce, adding seasonings as desired.
6. Arrange chicken on platter; pour over gravy.
7. Garnish and serve with hot tea biscuit, toast points, moulded steamed rice, or dumplings; garnish with parsley.

QUESTIONS.

1. What does the term "poultry" cover?
2. Is poultry any more easily digested than meat? Why?
3. Under what age must a chicken be to be called a "spring chicken"?
4. At what age does a chicken become known as a "fowl"?
5. What do we mean by "dressing" poultry?
6. How does the food value of poultry compare with that of meat?
7. Compare the connective tissue in meat with that in chicken.
8. Why is the leg of a chicken more tasty than the breast?
9. Which would you give to an invalid, the breast or the leg? Why?
10. What are the giblets? How would you prepare and serve them?

PRESERVATION OF FOOD.

Preservation as applied to food is the process of preventing decomposition, which is caused by the presence of minute living organisms. These living organisms, bacteria, yeasts, and moulds, are small plants which, with warmth, moisture, and oxygen, multiply rapidly by feeding on other substances.

The growth of these micro-organisms is controlled by producing conditions which prevent their growth. This is accomplished:—

1. By applying a low temperature (refrigeration and cold storage).
2. By applying a high temperature (canning).
3. By drying.
4. By excluding air (packing in water-glass, sand, etc.).
5. By adding preservatives such as sugar, salt, vinegar, and spices (jelly-making, smoking, pickling).

CANNING.

To ensure sufficient fruits and vegetables in the diet during the winter months, it is wise to can these products when plentiful.

METHODS OF CANNING.

Open Kettle.

The open-kettle method is the method used when the food to be canned is completely cooked in a kettle and then poured into the jar. To ensure success, all jars and utensils that come in contact with the food should be sterilized by boiling for at least 20 min. The open-kettle method should be used only for canning *acid* fruits and vegetables. The growth of micro-organisms is more easily controlled in an acid solution; consequently tomatoes are more easily preserved than peas—a non-acid vegetable.

Cold Pack.

The cold-pack method is so called because the uncooked or partly cooked product is packed in a jar; the food is covered with some liquid such as water, syrup or juice, and both the jar and its contents are sterilized in boiling water or steam or in the oven for a definite period. *This method should always be used for non-acid vegetables and meats.*

Equipment Used for Cold Pack.

1. Clothes-boiler or any container with tight-fitting cover and a rack to keep the cans from resting on the bottom.
2. A steam cooker—this requires a small quantity of water and thus shortens the time somewhat.
3. Pressure cooker—this exposes the food to a temperature above boiling-point and so greatly decreases the time necessary for sterilizing.

The use of steam-pressure is the safest method of processing non-acid vegetables, meat, and fish. The spoilage of non-acid foods is largely responsible for botulism, the most serious illness resulting from eating canned foods.

General Rules.

1. Use any glass jar which can be sealed air-tight. Avoid jars with rough edges. Test—partly fill with water, adjust rubber seal, and invert.
2. Always use new rubbers and new economy tops. See that rubbers fit jars.
3. Use nothing but *clean* towels and *clean* utensils in handling the product.

Syrups for Fruits.

Thin syrup, 1 c. sugar to 2 c. water.
Medium syrup, 1 c. sugar to 1 c. water.
Thick syrup, 2 c. sugar to 1 c. water.
Boil 5 min. in a covered saucepan. Allow 1 c. syrup to each pint jar.

Cold-pack Process.

1. *Selection of Jars and Rubbers.* *See* General Rules.

2. *Selection and Preparation of Product.*—Choose firm, fresh products, allowing the shortest time possible between time of picking and time of canning. Wash, peel, core, and pit, if necessary.

3. *Blanching.*—Place product in a wire basket or piece of cheese-cloth. Plunge into boiling water, boiling for a certain length of time. (*See* Chart.) Blanching serves four purposes.
   (1.) To loosen skins.
   (2.) To eliminate objectionable acids and flavours.
   (3.) To start the flow of colouring-matter.
   (4.) To reduce the bulk.

4. *Cold Dip.*—Plunge into cold water, allowing it to remain till cool to the touch. This sets the colour-matter and makes the pulp more firm.

5. *Packing.*—Pack products closely in clean, hot, tested jars.

6. *Syrup or Water.*—To fruits add boiling syrup of desired thickness. Fill jars to overflowing. To vegetables add 1 tsp. of salt for each quart jar and pour on boiling water as above. Tomato-juice can be used on tomatoes instead of water.

7. *Partially Seal Jars.*—If using a screw-top jar, screw the cover down until it catches; then turn it back one-eighth of a round. If using the easy-seal jar or economy, adjust one clamp only.

8. *Sterilizing.*—Place jars on a rack in boiler containing sufficient boiling water to cover the jars about 1 inch over the top. Do not allow jars to touch. Process according to the chart; time from the moment the water begins to boil. Keep water jumping.

9. *Removal of Jars.*—Remove jars and seal tightly. Dip out some water before attempting to lift jars.

10. *Storing.*—Invert jars to test seal. Wash, dry, label, and store in a dark place. Wrapping raspberries and strawberries in paper helps to prevent fading.

NOTE.—Never remove the top to fill a jar if part of the liquid has evaporated. To do so will cause contaminated air to enter the jar and will doubtless cause spoilage. The air-space becomes sterilized by the heat of the oven or the water bath and will not prevent the contents from keeping if the jar has been completely sealed.

OVEN CANNING.

Oven canning is becoming more and more popular, and is merely a variation of the cold-pack method. It is necessary to keep the oven at an even temperature and for this reason a controlled oven is most desirable. The most desirable temperature has been found to be 275° F.

Any kind of jar can be used, but it should be tested for perfect sealing. It should be clean and scalded in boiling water for several minutes. Remove from this boiling water just before filling.

Fill the jars to within 1 inch of the top to prevent the liquid in the jars from running over into the oven. Foods will keep just as well whether the jars are completely filled or not, and it is easier for the jar to form a perfect seal if there is a small space between the contents and the top of the jar.

Oven canning is somewhat slower than canning in the water bath, but it is a saving of labour, as all handling of water and the putting-in and taking-out of jars from the boiling water is eliminated.

Steps in Oven Canning.

1. Prepare fruit, vegetables, and jars as for " Cold Pack."
2. Pack food into the hot jars. Salt is added to the vegetables. Fill to within 1 inch of the top with boiling water for vegetables and syrup for fruits.
3. Place top in position and partially seal.
4. Place jars in the heated oven (275° F.) 2 inches apart, to allow the circulation of heat between them. The oven may be filled to capacity. If quarts are used, place them on the lower rack. If pints are used, both racks may be filled.
5. Process for the time given in the time-table, page 142.
6. Remove from the oven and completely seal. Invert for a few minutes to ensure perfect seal. Do not allow them to cool in this position.
7. Store.

Quantity of Canned Product.

The ration of uncooked to canned products varies with the type of food. The following information will be helpful in estimating the number of jars needed:—

Ration of Uncooked to Canned Products.

	Quarts.
1 bushel peaches	18
1 bushel pears	20
1 bushel plums	30
1 crate (16 qt.) raspberries	14
1 crate (16 qt.) strawberries	12
1 bushel tomatoes	16
1 bushel string beans	20
1 bushel sweet corn	12
1 bushel peas	10
1 bushel greens	7
1 bushel small beets or carrots	16

FRUIT AND VEGETABLE CANNING CHART.

Products to be Canned.	Preparation.	Water, Syrup, or Brine.	Sterilizing in Ordinary Boiler or Steam Cooker.	Sterilizing in Oven. (275° F.)
SOFT FRUITS: Strawberries, raspberries, blueberries, peaches, apricots, sweet cherries	Grade, rinse, stem, and pack whole, except peaches and apricots, which are cut in half. Peaches should be blanched and peeled	Use medium syrup	Strawberries, 8 min.; peaches, 15 to 20 min.; others, 12 min.	35 min.
HARD FRUITS: Apples, pears, crab-apples	Grade, core, pack whole or sliced	Use thin syrup	20 min.; crab-apples, 30 min.	Pears and pineapple, 35 min.
SOUR FRUITS: Currants, plums, gooseberries, cranberries, sour cherries	Stem, rinse, pit, blanch 1 min., cold dip, and pack whole	Use thick syrup	12 min.	Cherries and gooseberries, 30 min.; plums, 45 min.
GREENS: Asparagus, spinach, cauliflower, brussels sprouts, beet-tops, Swiss chard, kale, dandelion	Blanch in steam 20 min., cold dip, season to taste, and pack tightly	Add 1 tsp. salt to 1 pint; fill jar with hot water	1¼ hr.	Asparagus, 2½ hr.; spinach, 3 hr.
TOMATOES	Blanch long enough to loosen skin, cold dip, core and skin, and pack whole	Add 1 tsp. salt to qt. jar; fill jar with strained tomato-juice	22 min.	45 min.
PEAS	Shell, grade two sizes, blanch 5 min., pack, and shake down	Add 1 tsp. salt to qt.; fill jar with hot water	3 hr.	3 hr.
BEANS	Snip off tips, rinse, cut in pieces, blanch 5 min., cold dip, and pack closely	Add 1 tsp. salt to qt.; fill jar with hot water	2½–3 hr.	2½ hr.
BEETS (SMALL)	Clean well, blanch, preferably in steam, till skin is loose, cold dip, remove skin, and pack whole or sliced	Add 1 tsp. salt to qt. jar; fill with water or with vinegar and water, 1 part vinegar to 4 parts water	1½ hr.	2½ hr.
CARROTS	Clean well, blanch 5 min., cold dip, remove skin, and pack	Add 1 tsp. salt to qt. jar	1½ hr.	2½ hr.

JELLY-MAKING.

When sugar is used in large quantities in cooking, it helps to preserve the food, because it produces a condition unfavourable to the growth of micro-organisms.

Jellies, jams, marmalades, and conserves are made by cooking fruit-juice or entire fruit with an abundance of sugar.

The ideal jelly is well coloured, well flavoured, transparent, tender, holds its shape when turned from the glass, but is not tough.

Fruit-juice, in order to make good jelly, must contain both pectin and acid. Pectin is a substance soluble in hot water, which, when cooked in the presence of sugar and acid and cooled, gives the right consistency to jelly. Fruit for jelly-making should be just ripe or slightly underripe. Fruits which are rich in pectin are currants, grapes, sour apples, crab-apples, plums (red and black), raspberries (unripe), blackberries, cranberries, gooseberries, and quince.

THE PECTIN TEST.

To determine whether a fruit-juice can be used alone for making jelly or whether more pectin will have to be added, use one of the following tests:—

Alcohol Test.

Add 1 tbsp. of alcohol to 1 tbsp. of cooked fruit-juice. If the mixture thickens like gelatine, it contains much pectin. If there is only a little pectin it will collect in small particles.

Epsom Salts Test.

This requires a longer time than alcohol.

To 1 tsp. cooked fruit-juice add ½ tsp. of Epsom salts and 1 tsp. of sugar. Stir the mixture until salts are dissolved and let stand 20 min. If the mixture becomes thick and jelly-like, the juice contains sufficient pectin for making jelly.

GENERAL RULES.

1. Select sound fruit that is not overripe. Pick over; wash until thoroughly clean and free from sand and dirt. Cut up large fruits.

2. Put in the preserving-kettle and, if the fruit is very juicy, add just enough water to prevent burning—about 1 c. to every 4 qt. of fruit. If the fruit is not juicy, add water to nearly cover the fruit.

3. Cover; cook slowly, stirring occasionally. When fruit is soft, crush with potato-masher.

4. Dip jelly-bag into boiling water and wring out quite dry. Suspend on a pole over a container, pour in the hot fruit, and let drain until all the juice is extracted (from 12–20 hr.). Do not squeeze the jelly-bag, for squeezing will force out the pulp and make the jelly cloudy.

5. When well drained return the pulp to the preserving-kettle, cover with water, and stir until well mixed. Bring slowly to a boil and drain as before. Test for pectin, using alcohol test. A *third* extraction may sometimes be made.

6. Use ¾ c. sugar to 1 c. fruit-juice.

7. Heat sugar in granite pan in oven before adding as cold sugar delays boiling. Leave oven door open and stir occasionally to prevent burning.

8. Bring fruit-juice to a boil and boil from 10–12 min.; add hot sugar slowly, stir occasionally, and boil until the test shows sufficient cooking to

jell. Too long boiling destroys the jellying power of the pectin and may also cause crystals of sugar to form in the jelly after it stands.

9. *Tests for Jelly.*—Use either the plate or the thermometer test.

(*a.*) *Plate Test.*—Five minutes after the hot sugar is added to the concentrated juice draw the pan back and test. Place a drop on a cold plate; if it thickens it has been cooked enough. When the mixture drops from the edge of the spoon in a sheet or two large drops run into one, a similar consistency is secured.

(*b.*) *Thermometer Test.*—This is a more accurate test. Insert a thermometer in boiling syrup. Fruit-juices jell at a temperature of 218°–221° F. Test quickly, since the jelly may be overcooked if there is too much delay.

10. Sterilize jelly-glasses in the same manner as fruit-jars; fill with hot jelly to within ½ inch of the top.

11. Let jelly stand in a sunny place several hours to set; cover with hot paraffin. Cover the glass with a clean, tight-fitting cover or a heavy paper tied securely over the top. (An old teapot is convenient for pouring melted paraffin on jars.)

12. Commercial pectin, such as " Certo " or " Memba," can be used satisfactorily in making jellies and jams. While the amount of sugar required for a given amount of fruit is much greater, the quantity of jam is greatly increased, so that there is little, if any, increase in cost.

MARMALADES.

GRAPEFRUIT MARMALADE, I.

1 grapefruit.
1 orange.
1 lemon.
Water.
Sugar.

1. Wipe fruit and slice very thinly, rejecting only seeds and core of grapefruit.
2. Measure and add three times the quantity of water.
3. Let stand overnight in an earthenware dish.
4. Next morning boil 10 min. Leave until next day.
5. Then boil 2 hr. Measure, add an equal amount of sugar, and boil about 1 hr., stirring occasionally to keep from burning. Test as for jelly.
6. Pour into sterilized glasses; let stand until firm; then cover with melted paraffin.

GRAPEFRUIT AND ORANGE MARMALADE, II.

1 grapefruit.
1 orange.
1 lemon.
12 c. water.
10 c. sugar.
Juice of 1 lemon.

1. Wipe the fruit. Squeeze out juice. Reserve seeds.
2. Cut rind into very fine strips or put through the meat-chopper.
3. Put rind and juice in the kettle. Add 11 c. water. Cover. Let stand overnight.
4. Cover seeds with 1 c. water. Cover and let stand overnight. In the morning add water from the seeds to the rind. Tie seeds in a cheese-cloth bag and put into kettle.

5. Boil uncovered until rind is very soft and liquid has been reduced to one-half. Remove seeds at the end of the first hour.
6. Test fruit-juice for pectin.
7. Add sugar, heated. Stir until dissolved. Cover. Heat to boiling; then boil uncovered 10 to 20 min. or until the syrup will jell.
8. Add lemon-juice. Remove from heat. Pour into sterilized glasses and let stand until cold.
9. Cover the top with melted paraffin.

PEACH CONSERVE.

6 qt. peaches.
8 oranges.
1 lemon.
1 lb. nuts.
Sugar.

1. Blanch, peel, and slice peaches.
2. Squeeze juice and pulp from oranges; put rind through a mincer or chop fine.
3. Put peaches in kettle; add fruit-juice and rind.
4. Weigh; add 1 lb. sugar to 1 lb. fruit.
5. Cook until clear; stir frequently.
6. Add lemon-juice and chopped nuts; cook 5 min.
7. Bottle, seal when cold.

RHUBARB MARMALADE.

4 lb. rhubarb.
4 lb. sugar.
¼ lb. walnuts.
2 lemons, juice and rind.
3 oranges, juice and rind.

1. Wash and peel rhubarb. Cut in pieces.
2. Add fruit-juices, rind, and sugar, and boil 30 min.
3. Add walnuts cut in pieces.
4. Cook 10–15 min. or until thick.

GINGER PEARS.

4 lb. pears.
4 lb. sugar.
2 lemons.
2 oz. preserved ginger.
¾ c. water.

1. Select firm pears. Wipe. Quarter, core, and peel. Cut in pieces.
2. Add water, sugar, and grated rind of 1 lemon.
3. Simmer until pears are a rich-red colour and syrup is thick.
4. Add lemon-juice and ginger cut in small pieces. Cook 10 min.
5. Pour into sterilized glasses and seal.

CRANBERRY JELLY.

1 qt. cranberries.
1 c. boiling water.
2 c. sugar.

1. Boil cranberries until soft.
2. Rub through sieve.
3. Add sugar and cook without stirring until it jells, about 5 min.
4. Pour into moistened moulds; set away to cool.

NOTE.—Straining may be omitted if desired.

DAMSON JAM.

Damson plums. Sugar.

1. Wash the fruit and cut in halves, removing the pits.
2. Break a few of these pits, adding the kernels to the fruit.
3. Pour a little water over the plums and put over the fire to come slowly to the boiling-point.
4. Cook gently for half an hour, and add an equal quantity of sugar.
5. Simmer for an hour and a half very slowly.
6. Pour into clean, hot, sterilized jars and seal.

STRAWBERRY AND PINEAPPLE CONSERVE.

2 c. strawberries. 1 c. grated pineapple.
3 c. sugar.

1. Wash and hull strawberries.
2. Add pineapple and sugar.
3. Cook slowly until thick.

GRAPE CONSERVE.

½ peck grapes. 1 c. chopped nuts.
2 oranges—juice and rind. Sugar.
2 lemons—juice and rind. ½ tsp. salt.

1. Wash the fruit. Remove the grapes from the stems; remove the skins from the pulp.
2. Cook the pulp until soft; strain to remove the seeds.
3. Place the strained pulp and skins in a preserving-kettle.
4. Extract the juice from the oranges and lemons; then put the rinds through a food-chopper.
5. Add the lemon and orange juice and rind to the grape mixture and cook for 1 hr.
6. Measure the mixture; then add an equal quantity of sugar and the nuts and salt.
7. Continue cooking until thick; pour into sterilized glasses.
8. When cool, cover with paraffin and cover as for jelly.

PICKLES.

In pickling, vinegar and spices act as a preservative.

CHERRY OLIVES.

Cherry olives are a relish which is characteristic of the fruit districts of British Columbia. The cherries are prepared and served as olives. The Royal Anne or the Byng cherries are suitable.

Wash cherries, pack in jars, and cover with the following solution:—

1 pt. vinegar. 1 pt. water.
1 tbsp. sugar. 2 tbsp. salt.

NOTE.—No heating; no cooking; keep in a cool place.

RHUBARB AND ONION PICKLE.

2 qt. rhubarb (cut in small pieces). 2 qt. minced onion.
1½ pt. vinegar.

1. Cook these together 20 min., and add:—

4 lb. brown sugar.	1 tbsp. allspice.
1 tsp. pepper.	½ tbsp. cloves.
1 tsp. salt.	A piece of ginger-root.
1 tbsp. cinnamon.	A little mustard-seed.

2. Boil until fruit is soft. Bottle and seal. (This makes about 7 pt.)

CHILI SAUCE.

16 large ripe tomatoes.	1 tbsp. whole cloves.
2 large onions.	2 tbsp. stick cinnamon (broken).
4 green peppers.	1 tbsp. whole allspice.
⅔–1 c. brown sugar.	1 tsp. grated nutmeg.
1 tbsp. salt.	1 c. vinegar.

1. Wash and peel tomatoes and onions; remove seeds and tongues from peppers.
2. Cut tomatoes; chop onions and peppers.
3. Place all together in kettle; add spices tied in cheese-cloth, and other ingredients.
4. Cook slowly 2–2½ hr. or until thick; stir frequently.
5. Seal in sterilized jars.

CELERY SAUCE.

1 pk. ripe tomatoes.	1 tbsp. stick cinnamon.
4 onions.	1 tbsp. cloves.
2 large heads celery.	1 tbsp. whole allspice.
2 c. brown sugar.	½ tsp. cayenne.
2½ c. vinegar.	1½ tbsp. salt.

1. Wash tomatoes; peel and cut in pieces.
2. Add onions and celery, chopped.
3. Add remaining ingredients (tie spices in cheese-cloth); cook slowly until thick.
4. Seal in sterilized jars.

BEET AND CABBAGE RELISH.

1 qt. chopped cabbage.	2 c. sugar.
1 qt. boiled beets, chopped.	1 tbsp. black pepper.
1 c. horseradish.	½ tbsp. red pepper.
	1 tbsp. salt.

1. Cover all with cold vinegar and mix thoroughly.

PEPPER HASH.

1 doz. green peppers.	1 qt. vinegar.
1 doz. red peppers.	3 tbsp. salt.
3 large onions.	2 c. sugar.

1. Remove seeds from peppers and put through the chopper.
2. Cover with boiling water and let stand 10 min.
3. Drain dry and add onions, vinegar, salt, and sugar.
4. Cook 15 min. and pack in jars.
5. Seal.

QUESTIONS.

1. What are micro-organisms? Name three kinds.
2. How can their growth be controlled?
3. A jar of peaches when opened has mould on the top. Explain the reason.
4. Give an example where the growth of moulds is desired in our foods. Where the growth of yeast is desired.
5. Which micro-organism usually grows on meat?
6. Explain the difference between the "Open Kettle Method" and "Cold Pack Method" of canning.
7. What is the cheapest equipment that can be used for Cold Pack canning?
8. Explain how to test a jar.
9. What is meant by "blanching"? Why is it done?
10. What are spores? How can we be assured they are destroyed in canning peaches?
11. Give proportions and explain the method of making a medium syrup.
12. How much syrup should you plan for 2 quart jars of fruit?
13. Why is it advisable to have the water 1 inch over the top of the jars when sterilizing?
14. Is it advisable to dry out jars before filling? Why?
15. Should jars be opened to fill the empty space at the top? Why?
16. Why should the jars be only partially sealed before putting in the water bath?
17. In placing the jars in the boiler, what precautions should be taken? Why?
18. How long do you sterilize plums? Peaches? Pears? Tomatoes?
19. What are the best vegetables for canning?
20. Why is canned fruit more wholesome than jams or jellies?
21. What causes fruit-juice to jell?
22. What causes a tough jelly?
23. How may we test for pectin?
24. In selecting fruit for jelly, what points would you observe?
25. What are the advantages and disadvantages of preserving food in the home?
26. Name four preservatives and state how they are used.
27. How does Oven Canning differ from the Cold-pack Method?

SANDWICHES.

GENERAL RULES.

1. Bread for sandwiches should be fine-grained and 24 hr. old.
2. Cut slices as thinly as possible and remove crusts for afternoon teas.
3. For noon-lunch sandwiches cut slices ¼ inch thick and do not remove crusts.
4. If butter is used, cream it before spreading. If sandwiches are shaped with round or fancy cutters, bread should be shaped before spreading, that there may be no waste of butter.
5. Sandwiches may be made some time before they are to be used and may be kept fresh by covering with a damp cloth or wrapping in paraffin paper.

SANDWICH FILLINGS.

1. Equal parts of finely cut nuts and grated cheese, with cooked or mayonnaise salad dressing.
2. Equal parts of grated cheese and olives cut fine, mixed with salad dressing.
3. Equal parts of cream cheese and pimento.
4. Peanuts chopped and salted with salad dressing with white or whole-wheat bread.
5. Fresh crisp lettuce with salad dressing.
6. Hard-cooked eggs and salad dressing. A few drops of onion-juice may be added.
7. Equal parts of chopped almonds and celery with dressing.
8. Crushed maple sugar with thick cream with whole-wheat or nut bread.
9. Alternate about 6 layers of nut and Graham bread. Use cream cheese and grated pineapple and slice across.
10. Cheese rolls—Cut crusts off bread, spread with cream cheese, roll, and toast in oven just before serving.

LUNCH-BOX REQUIREMENTS.

1. Lunch box or pail; cleaned daily and well aired; no newspaper wrappings.
2. Wax paper for wrapping sandwiches and cake.
3. Paper napkin.
4. Container with screw-top for jellies, custards, etc.
5. Drinking-cup.
6. Knife, fork, and spoon (if desired).
7. Thermos bottle or jar for milk.

CONTENTS OF LUNCH-BOX.

1. Breads—white, brown, raisin, or nut.
2. Sandwich fillings.
   Cottage or cream cheese—plain or mixed with chopped olives, pimento, or nuts.
   Minced fish—salmon, whitefish, halibut, mixed with salad dressing.
   Peanut butter.
   Finely chopped, hard-cooked eggs.
   Baked beans with salad dressing.
   Chopped raisins, dates, figs, and nuts mixed with fruit-juices.
   Lettuce, tomato, cucumber, and celery.
3. Sweets—custards, jellies.
   Fruit—stewed, canned, preserved.
   Fruit, dried—prunes, dates, figs, raisins.
   Plain cake. Plain cookies. Home-made candy.
4. Beverages—milk, fruit drinks.
5. Supplement with a simple hot dish where possible.

INVALID COOKERY.

Food for the sick is an important subject. The quantity and kind of food for patients must be varied according to the nature of the disease.

Diets for invalids are classified as liquid, soft, light, and full diets.

A *liquid* diet includes milk, beef tea, broths, beef juice, strained gruels, egg-nogs, cream soups, cocoa, and all other liquid foods. Tea and coffee must be avoided.

A *soft* diet includes dishes in the liquid diet, and also milk toast, soft-cooked eggs, jellies, soft custards, junkets, ice-cream, apple sauce, and cereals.

A *light* diet includes soft-cooked eggs, baked custard, asparagus, gelatine jellies, baked apple, stewed prunes.

A *full* diet includes all foods that are easily digested.

RULES FOR SERVING INVALIDS.

1. Be sure the patient is comfortable and the room well ventilated before bringing in the food-tray.
2. Be cheerful and ready to attend to the wants of the patient while the meal is being served.
3. Cook all food carefully and thoroughly.
4. Serve hot food, hot; cold food, cold.
5. Serve food daintily and attractively.
6. Serve food in small quantities as it is more tempting to a delicate appetite.
7. Use the prettiest dishes and the best linen.
8. Put a flower on the tray to make it attractive.
9. Plan to have surprises for the patient in the kinds of food, as well as in the methods of serving.
10. Serve meals promptly.

BEEF JUICE.

1. Broil a small piece of round steak.
2. Cut into small pieces.
3. Squeeze the juice from it into a cup.
4. Season with salt and serve.

BEEF TEA.

1 lb. round steak. 2 c. cold water.
½ tsp. salt.

1. Remove skin and fat and chop meat finely.
2. Let stand in cold water ½ hr.
3. Place in double boiler and heat gradually, keeping the temperature at 130° F. for 2 hr. Be careful not to let boil.
4. Strain, add salt, and serve.

ALBUMENIZED WATER.

1 egg-white. ½ c. cold water.
Lemon or other tart juice.

1. Add water and fruit-juice to egg gradually, stirring until well blended.

EGG LEMONADE.

1 egg. Juice of 1 lemon.
1 tbsp. sugar. ½ c. cold water.

1. Beat white and yolk of egg separately; then together.
2. Add sugar, water, and strained lemon-juice.
3. Beat well; chill.

ORANGE ALBUMEN.

1 egg-white. Fruit sugar to taste.
Juice of 1 orange. ⅛ c. cold water.
2 tbsp. lemon-juice.

1. Beat egg-white sufficiently to mix with other ingredients.
2. Add water, fruit-juice, and sugar.
3. Strain and chill.

BARLEY WATER.

1 c. pearl barley. Salt.
6 c. cold water.

1. Pick over and wash barley; put into double boiler; add cold water and salt; cook 6 hr.
2. Strain and cool.

PASTEURIZED MILK.

1. Sterilize bottles; drain; fill with milk; cork with baked cotton.
2. Place on rack in a deep kettle; surround with cold water to the level of the milk.
3. Heat gradually to 145° F.; keep at that temperature 30 min.; or bring water to a boil and boil 5 min.
4. Cool quickly; keep in a cold place.

EGG-NOG.

1 egg. 1 tbsp. sugar.
⅔ c. milk. Few grains salt.
Nutmeg, vanilla, or other flavouring.

1. Beat egg slightly; add salt, sugar, and flavouring.
2. Mix thoroughly, add milk, and strain.

OATMEAL GRUEL.

½ c. rolled oats. ½ tsp. salt.
3 c. boiling water. Milk or cream.

1. Add salt and oatmeal to boiling water.
2. Boil 5 min. over direct heat.
3. Cook 2 hr. in double boiler.
4. Force through strainer, and dilute by adding hot milk or cream.

MILK TOAST.

1 c. scalded milk. 1 tbsp. butter.
⅛ tsp. salt. ¾ tbsp. flour.

1. Make a white sauce of above ingredients.
2. Pour over toast and serve very hot.

INFANT-FEEDING.

The first year of baby's life is the most hazardous one for feeding, and the one of greatest growth and development. Breast-fed babies have the best chance for normal development, but where this is not possible the best cow's milk available should be substituted. It should be clean, fresh, pure, of

uniform composition, and either certified or pasteurized. Milk purchased in bulk from open cans or from uncertain sources should never be used for infant-feeding.

Certified milk is milk that is guaranteed by the producer to be obtained from tubercular-tested cows that are cared for in the most sanitary method possible. The law requires that it be sealed and that the bacteria count be low. (For *Pasteurized Milk* see above.)

Cow's milk contains more protein and mineral salts per quart than does mother's milk. So as to get the best results in baby-feeding, cow's milk should be modified so as to be as nearly like mother's milk as possible. This usually means adding more milk sugar or dextri-maltose, plus sterilized water or cereal water in proportions prescribed by a physician. At 9 months of age a baby should be getting approximately 3 parts milk to 1 part water. The milk may be increased gradually until, at 12 months, the baby will be getting whole milk.

PREPARATION AND CARE OF MILK-BOTTLES.

1. One 8-oz. bottle should be provided for each feeding and the same number of nipples, using a different bottle and nipple for each feeding.

2. Sterilize bottles every morning. To do this wash well with hot, soapy water, using a bottle-brush; rinse thoroughly and sterilize in a pan of boiling water for 20 min.

3. Fill sterilized bottles with prepared food, seal with baked cotton plug, and set in ice-box until feeding-time.

4. Wash nipples daily with clear water, using a small brush, and when not in use keep in a solution of boric acid. Boil 4–5 min. once a week, and then put in a solution of boric acid. (Daily boiling injures the rubber.)

NOTE.—*Boric solution* is made by adding 1 tsp. boric acid to 1 pt. of hot water.

FEEDING THE BABY.

1. Before feeding, heat the bottle gradually to 98°–100° F. in a pan containing hot water. (Test by a drop on the wrist.)

2. Adjust clean nipple and see that milk flows freely through the opening.

3. Feed baby at once while the milk is the right temperature. *Regularity of meals is essential.*

4. Drinking-water should be given to babies *only* between feedings. From 1–2 oz. of boiled water cooled to temperature of 98° F. will usually quiet a fretful baby.

5. Orange-juice or tomato-juice is given to bottle-fed babies to furnish Vitamin C, which is lacking in a diet of pasteurized milk. It is also an aid in regulating the bowel-movement. One tbsp. of orange-juice is about the proportion for a 3-month-old baby, increasing to 3 or 4 tbsp. daily for the 6-month-old baby.

6. Cod-liver oil is often prescribed as a source of Vitamins A and D for strengthening the bones and preventing rickets.

7. At 5–6 months the milk-feeding may be supplemented by other foods prescribed by physician, beginning with a well-cooked cereal.

8. At 7 months, strained spinach may be added (1 tsp.).

9. At 8 months, 1–2 tbsp. strained spinach or carrots.

10. At 9 months, baked potato, baked apples, together with cereal, vegetables, and milk, comprise the diet.

11. At 10 months, cream vegetable soups, crisp bacon, a cereal, vegetable, and some fruit every day. Junket, gelatine, jellies, dry toast, and arrow-root cookies may also be used. *In introducing new foods, care should be taken to consult a physician.*

FEEDING THE TODDLER.

1. Weaning the infant from the bottle or breast should be done about the end of the first year. However, no decided change should be made in the feedings during the hot summer months.

2. Foods after weaning (1–2 years) include the same type as before, continuing the green, leafy vegetable and cereal serving every day. Add well-cooked fruit, finely chopped breast of chicken, and coddled or poached eggs. All foods should be well cooked and put through a vegetable-strainer to remove all the coarse fibre. No *fried foods or foods difficult of digestion* should be allowed. Breads should be in the form of toast or zwieback. Fresh or quick breads should *not* be used.

3. Meat should be used sparingly in the diet of the young child for the following reasons:—

(1.) When eggs and milk are used freely, there is little need for meat.

(2.) The protein of meat is more liable to putrefaction in the intestine than milk or egg protein, causing digestive disturbances.

(3.) Meat contains extractives which create an appetite for foods of more pronounced flavour, and frequently causes the child to refuse to eat the grain foods and foods of bland flavour.

(4.) Meat is poorer than milk in ash content.

4. *Schedule for Baby of 12 Months.* (Suggested.)

6 a.m. Whole milk (8 oz.) and zwieback.
8 a.m. Fruit-juice (orange, prune, pineapple, or tomato), 3 tbsp. plus 1 tsp. cod-liver oil.
10 a.m. Cereal (4 tbsp.) with whole milk (8 oz.).
2 p.m. Vegetable pulp, ½–1 yolk of egg.
6 p.m. Cereal (4 tbsp.) with whole milk (8 oz.).
10 p.m. Milk, 8 oz.

A DAY'S FOOD PLAN FOR A CHILD THREE TO FOUR YEARS OLD.*

(FUEL REQUIREMENT: 1,100–1,400 CALORIES. COST: 2–2½ CENTS PER 100 CALORIES.)

		Calories.
7 a.m.:		
Prune pulp or Apple sauce	3–4 tbsp.	25– 50
Well-cooked cereal		50– 75
Top milk, 2–4 tbsp.		50–100
Milk to drink, 1 cup		170
Toast or Dry bread	1–3 slices	50–150
9 a.m.:		
Cod-liver oil, 1 tsp. in 2 tbsp. orange-juice		48

* Taken from "Feeding the Family," by Rose (Macmillan Pub. Co.).

A DAY'S FOOD PLAN FOR A CHILD THREE TO FOUR YEARS OLD—*Continued.*

	Calories.
12 a.m.:	
Egg, soft-cooked	60– 80
Baked or mashed potato, 1 small	50– 75
Sifted green vegetable, as spinach, asparagus-tips, peas, 2–4 tbsp.	5– 15
Milk to drink, ¾–1 cup	130–170
Buttered stale bread, 1–2 slices / or / Zwieback	75–150
Plain custard or junket / or / Cereal pudding, ¼–⅔ cup	100–200
3 p.m.:	
Milk, 1 cup	170
Bread and butter, 1 slice / or / Whole-wheat cracker	50– 75
5.30 p.m.:	
Bread and milk / or / Milk toast / or / Cereal and milk / or / Baked potato and cooked vegetable with bread and butter	200–300
Mild-cooked fruit, as apple sauce, stewed pears, steamed (and warm) mashed banana	25–150

UNIT V. SOURCES OF FOOD MATERIALS.

BREAKFAST FOODS.

Breakfast foods are made from all the grains, but chiefly from wheat, oats, corn, and rice. The outer skin is first removed, and then the grain is used in several forms:—

1. *Whole or Broken.*—As in hulled corn, coarse hominy, cracked wheat, whole oats or groats, rice, and pearl barley.

2. *Granulated or Steel-cut.*—As in oatmeal and various granulated wheat preparations, granulated corn-meal, and fine hominy.

3. *Ground Coarse by Crushing.*—As in windmill-ground corn-meal, rye-meal, and barley-flakes.

4. *Steam-cooked.*

(*a.*) *Partially cooked.*

(1.) Rolled oats. The grain is steamed, dried, and rolled.

(*b.*) *Completely cooked.*

(1.) Shredded wheat. The grain is steamed, shredded, and baked.

(2.) Corn-flakes, Rice-flakes. The corn and rice are steamed, dried, rolled through heavy steel rollers, and toasted.

5. *Puffed Wheat and Puffed Rice* are made from the whole grains by heating them under pressure in containers somewhat resembling guns. The grains are revolved in these guns for hours at a high temperature. Then the guns are fired and as a result of the explosion the grains are puffed.

NOTE.—For further detail *see* "A Few Things we Eat," compiled by A. T. Retlaw Reg'd., Montreal, P.Q.

CINNAMON.

Cinnamon is the inner bark of young wood of the cinnamon-tree. It is cultivated in Ceylon, East India, and China. Cinnamon is sold in quills and ground for use in cookery as a flavouring material.

The cinnamon-tree grows to a height of 20–30 ft. in its wild state. In cultivation it is kept down to a sapling of 10 ft. or less.

The shoots or branches of about an inch in thickness are cut when the bark is "ripe"; that is, when it separates readily from the wood. These branches are then trimmed to a length of about 4 ft. They are stripped and peeled. The bark is slit and pried off, dried and fermented. Each strip is then placed over a round stick and the thin outer skin is scraped off, exposing the pale-yellow inner bark, which is the cinnamon itself. The strips are dried and formed into "quills," in which they are marketed. In this form we speak of them as "stick" cinnamon. Cinnamon is also purchased in powdered form after grinding.

CLOVES.

Cloves are the dried flower-buds of the clove-tree. When plucked they are reddish, but this changes to the familiar dark brown in the process of drying in the sun. The tree is an evergreen which grows to a height of 40 ft., bears its developed clove-buds in its seventh year, and is productive up to the age of nearly 100 years. Cloves are grown in the Molucca or "Spice Islands," the West and East Indies, islands off the coast of East Africa, and other tropical regions.

COCOANUT.

The cocoanut-palm is widely grown in South America, the South Sea Islands, the West Indies, Ceylon, and parts of India. The palm grows to a height of 100 ft. and has a long, slender trunk, free of leaves or branches. For commercial use the palm is cultivated in "groves."

The cocoanut as we know it looks like a large woody nut, but on the palm this nut is enclosed in a husk. It is either cut from the tree or allowed to drop of its own accord when ripe. The nut is composed of a white meat and cocoanut-milk. In its early stages this meat is a creamy substance which can be eaten with a spoon.

Cocoanut-oil is obtained by pressing or boiling the white meat. It is used to make "nut butter," cooking-oils, and soap.

"*Desiccated*" *Cocoanut* is simply the white meat of the cocoanut, dried and shredded for cooking purposes. Often it is sweetened.

CORN-STARCH.

Corn-starch is manufactured from corn. The corn is first cleaned and soaked for two days in warm water, to which is added some sulphurous acid to prevent fermentation. This steeping causes the corn to swell.

It is then coarse ground in mills so arranged as to break up the kernel without breaking the "germ." This ground mass is then run into separators containing water. Since the germs contain fat, they rise to the surface and are carried off. Corn-oil or Mazola is made from the germs.

The rest of the mass settles to the bottom of the separators and by a certain process the protein of the corn is separated from the starch, which at this stage is called "green starch." The green starch is thoroughly washed and dried until only 10 per cent. of water is left. It is then ground until it becomes a fine white powder.

Corn-starch is used for thickening purposes and for laundry-work.

CORN SYRUP.

Corn syrup is manufactured by a chemical process from "green starch." The starch is changed into sugar in a liquid form. It is sometimes called "commercial glucose."

CRISCO.

Crisco is a solid fat made from cotton-seed oil. It is used for cooking purposes. It is cheaper than butter.

LARD.

Lard is the rendered fresh fat from hogs in good health. The best grade of lard in commerce is known as "leaf" lard. It is taken from the abdominal cavity of the hog. Lower grades of lard are rendered from trimmings and various parts not suitable for making into sausage.

MACARONI.

Macaroni is made by mixing hard-wheat flour and water to form a very stiff dough. This is kneaded by machine, and forced through tubes in a metal plate which give it the shape by which we know it. After this it is dried, inspected, sorted, and packed. We can buy it either in bulk or in package form.

We usually associate macaroni with Italy, but it was first invented in China. To-day most European countries manufacture it, and it is made here in Canada from our own hard wheat.

MAZOLA.

Mazola is a corn-oil. The oil is obtained from the germs of the grain. They are dried, ground, and put under pressure, and the oil is collected. It is used for salads.

NUTMEG.

Nutmeg is the dried kernel of the fruit of a tropical tree native to the East Indies. The kernels are dried, usually after washing in lime-water, or are powdered with air-slaked lime after drying, in order to protect them from insects. Grinding spices, like grinding coffee, releases the aromatic oils. If the ground spice is then exposed to the air, its fragrance and flavour are soon lost. For this reason many housewives have preferred to buy nutmeg and other spices and grind them as needed. Air-tight packages now on the market prevent the escape of fragrance and flavour into the air.

OLEOMARGARINE.

Oleomargarine is the term applied to butter substitutes made by churning fats, other than butter-fat, with milk or cream to a butter-like emulsion.

It is not legal to manufacture or even sell oleomargarine or any butter substitutes in Canada.

OLIVE-OIL.

Olive-oil is made from ripened olives. The olives are crushed and their liquid is extracted by pressing the pulp. The first oil obtained is known as "crude olive-oil." Refining produces the olive-oil used for salad, which is a golden-straw tint. Olive-oil should not be exposed to extremes of light and temperature.

PAPRIKA.

Paprika is grown principally in Spain, Hungary, and America. It is the dried flesh of a large, long, red pepper, powdered, and is mild in taste. It is used extensively for flavouring salads and in making sauces.

PEPPER.

Pepper is the berry of a climbing plant which is cultivated in tropical countries. Black pepper is obtained by picking the berries while immature; white pepper, by allowing the berries to ripen and become more starchy.

PRUNES.

Prunes are dried plums of the finest grade. The methods of drying vary in different countries. Most of our prunes come from California. By the California method the fruit is allowed to fall from the tree in order to secure the fullest ripeness, and consequently the greatest sugar content. The fruit is immersed in a mild lye solution, followed by a clear water rinse, and dried in the sun. The prunes are then graded, given a cleansing bath of scalding water, dried, and packed in boxes for marketing. The prune has a high sugar content and it is valuable as a laxative. Prunes of a medium size are the most economical. It takes 2½ lb. of fresh fruit to make 1 lb. of prunes, the difference representing the evaporation of water content.

RICE.

Rice is the principal food of more than one-third the population of the world. It grows chiefly in the Southern States, China, and India. It looks somewhat like wheat, but at the end of the bearded part each little grain grows singly. It is necessary to keep most kinds of rice flooded during the growing season.

1. "*Unpolished*" *or Brown Rice.*—After separating the grain by threshing, the outer husk is taken off. It is this outer husk which we call brown or "unpolished" rice. It contains mineral matter and vitamins.

2. "*Polished*" *Rice.*—After the brown coating is removed from the grains the ordinary white or "polished" rice is left. Some of the diseases found among races whose chief food is rice are due to the fact that they use this polished rice so extensively. However, we can overcome any difficulties of this kind by using rice together with foods which contain vitamins; e.g., tomatoes, etc.

SAGO.

Sago comes from the pith of the trunks of the sago-palm. This tree grows in the East Indies and thrives in marshy places. It is a thick-trunked tree, about 30 ft. high. It bears fruit only once—when it is 10–15 years old—and then it dies.

A single tree will yield about 600–800 lb. The palm is cut down and the pith is taken out and grated to a powder. After it is strained and washed the natives use it for food, but it is not yet ready for export.

It is mixed with water into a paste and rubbed through sieves to form "pearl" sago. A larger sieve is used to make "bullet" sago.

Sago is valuable as a food because it is cheap and rich in carbohydrate (starch).

SPAGHETTI.

Spaghetti is made in the same way as macaroni, except that the tubes through which it is forced are much smaller.

SUGAR.

Our supply of sugar comes from two important sources –the sugar-cane and the sugar-beet.

I. The Sugar-cane.

The sugar-cane is a plant which looks like a huge stalk of Indian corn. It grows in tropical and semi-tropical countries.

1. *Manufacture of Raw Sugar from the Sugar-cane.*

(*a.*) The cane is cut to the ground and stripped of its leaves and top and taken to the mills.

(*b.*) The juice is taken out by crushing the cane through rollers.

(*c.*) The juice thus obtained is purified and then boiled to a syrup.

(*d.*) This syrup is boiled until sugar crystals and a dark syrup called "molasses" are left.

(*e.*) The sugar and molasses are whirled round and round in machines. The molasses is collected and brown sugar crystals (called "*raw sugar*") remain.

(*f.*) The molasses is often boiled to make "*molasses sugar*," and the thin syrup which is left is called "*blackstrap molasses.*"

2. *Refining of Sugar.*

(*a.*) Raw sugar is washed by adding water.

(*b.*) The syrup thus made is purified and the colour is taken out of it.

(*c.*) After this the syrup is boiled until sugar crystals are formed.

3. *Different Kinds of Manufactured Sugar.*

(*a.*) *Granulated Sugar.*—The syrup of 2 (*c*) is passed into machines, where the sugar crystals are separated, dried, and ground.

(*b.*) *Powdered Sugar* is granulated sugar ground very fine. It is sold under the name of "Berry sugar," "Castor sugar," "Bar sugar," or "Fruit sugar."

(*c.*) *Loaf Sugar* or "*Lump*" *Sugar.*—Sugar crystals are moistened with a little syrup and poured into moulds and compressed.

(*d.*) *Icing-sugar* is finely powdered sugar with corn-starch added.

II. The Sugar-beet.

The sugar-beet is a long, white tuber which grows in Eastern Canada, Alberta, British Columbia (to a limited extent), Europe, and the United States.

1. *The Manufacture of Beet-sugar.*

(*a.*) Beets are grown from very carefully chosen seed. They are then sent to the mills along underground tunnels.

(*b.*) The beet is sliced and placed in "cells," where the juice is taken out. After this the steps are the same as those followed in the manufacture of cane-sugar, with this exception: *The "raw" sugar and molasses which come from the beet are never sold as they have an unpleasant flavour.*

III. Maple Sugar.

In North America we get another kind of sugar. This is obtained from the sugar-maple. To-day we use this sugar as a confection, but in the early days it was the only sweetening agent the settlers had.

How We Get Maple Sugar.

1. In February or March holes are bored in the hard maple-trees.

2. Spouts are put into the holes and buckets are placed on the spouts.

3. The sap flows until the trees begin to bud.

4. The sap is put into barrels and sent to the sugar-house, where it is boiled either to the syrup stage, yielding "maple syrup," or to the crystal stage, yielding "maple sugar."

TAPIOCA.

Tapioca is made by heating the starch obtained from the roots of the cassava, a plant which grows in South America, West Indies, and Malay Peninsula. The root is grated and washed, the starch is taken out, mixed with water, and heated so as to burst the starch-grains.

"*Pearl*" *tapioca* is made by forcing the moist starch through sieves.

"*Minute*" *tapioca* is made by grinding pearl tapioca.

VANILLA.

Vanilla is made from vanilla-beans. The vanilla-plant is a climbing vine which grows in the west and East Indies and Southern Mexico. The beans are gathered while just showing a yellowish tint, and are dried in the sun until they attain a rich chocolate shade. In making vanilla extract, the beans are cut fine and immersed in a mixture of grain alcohol and water. A few days later this liquid is poured off and bottled.

VERMICELLI.

Vermicelli is another product which is made in the same way as macaroni, but the tubes are smaller than those used for spaghetti. Sometimes it is cut into fancy shapes, such as alphabets, etc., and is used in soups.

WESSON OIL.

Wesson Oil is a cotton-seed oil. The cotton-seed resembles a small coffee-bean in size and shape, and it produces oils of varying degrees of purity. The refined oil is used in cooking and for salads.

YEAST.

Yeast is a number of little cell-like plants, too small to be seen by the human eye, except with the use of the microscope. When they are put into dough, they grow and produce more cell-like plants.

In order to grow, the yeast-plants must have: (1) food; (2) moisture; (3) warmth. When the temperature is too hot the yeast-plants are killed. Cold does not kill them, but it retards their growing. Yeast grows best at lukewarm temperature.

Action of Yeast in Dough.—In dough the yeast produces carbon dioxide (CO_2) and alcohol. The CO_2 stretches the gluten (protein) and makes the whole mass rise. The heat of the oven hardens the gluten, and both the CO_2 and the alcohol pass off into the air.

"Compressed" Yeast Cakes (such as Fleischmann's) contain growing yeast-plants and enough starch and moisture to allow them to grow for a few days. Compressed yeast needs to be replenished often, as it will not keep long.

"Dried" Yeast Cakes (such as Royal) are made by mixing yeast-plants with meal. When dried they are wrapped and ready to sell. They keep indefinitely.

APPENDIX A.

CHEMICAL TESTS FOR FOODSTUFFS (ADAPTED FROM "OUR ENVIRONMENT," BY WOOD & CARPENTER).

(To be used in Grade IX. classes.)

PROBLEM I.

To detect the presence of starch and sugar in foods.

Apparatus and Materials.

Bunsen burner, several test-tubes, Fehling's solution, corn-starch, grape-sugar, some white bread, boiled potato, lemon-juice, iodine solution.

Method.

1. Place iodine on some of the corn-starch. Note the reaction. *The blue-black colour is a sure test for starch.*
2. Place a small portion of the potato in a test-tube with water and heat over the flame until it begins to boil. Pour into the test-tube some of the iodine solution. Note the reaction.
3. Place a drop of iodine on the white bread and a few more drops on a small amount of lemon-juice in a test-tube. Record the results.
4. Now place a small amount of sugar in a test-tube about one-quarter full of water. Heat over the flame until the solution shows signs of boiling. Now pour in a small amount of Fehling's solution. Heat again. Note the changes in colour and particularly observe the last colour produced. *This brick-red or terra-cotta colour is a sure test for grape-sugar.*

5 Now test some of the potato in water in a test-tube with the Fehling's solution. Note the result and record it.

6. Try the bread next and then the lemon-juice in the same way.

Observations.

1. What is the test for starch?
2. Was starch found in bread? In the potato? In the lemon?
3. In which was most found?
4. What is the test for grape-sugar?
5. Was sugar found in the potato? In the bread? In the lemon?
6. Would you expect to find sugar in lemon? Why? Explain this.

Conclusion.

How would you test foods for the presence of starch and grape-sugar? Give full statements. Test some other foods.

PROBLEM II.

To detect the presence of fats and proteins in foods.

Apparatus and Materials.

Bunsen burner, test-tubes, glazed paper, olive-oil, white of egg, a piece of bacon, bread, half a small potato, a Brazil nut, nitric acid, household ammonia.

Method.

1. Place some of the olive-oil on paper. Allow it to spread a little. Hold high over the flame. Note the effect of the oil on the paper as you hold it up to the light. *Oil always makes glazed paper semi-transparent.*

2. Rub the Brazil nut on a dry part of the paper. Try the bread next, and then a piece of bacon. Note the relative results and record them.

3. Place some of the egg-white in a test-tube and pour in some nitric acid. Boil. Note the effect and the final colour of the egg-white. Now add a few drops of household ammonia. Note again the final colour effect. *This is the test for protein.*

NOTE.—Burn any food. If the fumes given off remind you of burning leather or feathers, it contains protein.

4. Now place some of the acid on some bread and note the effect. Add a few drops of ammonia. Note the effect. Try the same test with the bacon, the Brazil nut, and the potato, being sure that you get the chemicals on the skin of the potato as well as on the white part.

Observations.

1. What effect does the oil have on the paper?
2. Is there oil in the Brazil nut? In bread? In bacon?
3. Does the potato contain fat?
4. What is the test for proteins?
5. What effect does the ammonia have on egg-white?
6. Is there protein in bread? In bacon? In Brazil nuts? In potato?

Conclusion.

What are the tests for fat and proteins? How would you test orange-juice, beef, and syrup for proteins? Try these tests on some of the common foods and report on them.

PROBLEM III.

To detect minerals in foods.

Apparatus and Materials.

Bunsen burner, an iron spoon, sugar, lean beef, bread.

Method.

1. Place the sugar in the spoon and hold it over the flame. Note what happens. Hold in position until there is no more burning. Remove what is left and place on a piece of paper.

2. Now place the meat in the spoon and treat it in the same way. Finally, treat the bread in the same manner.

Observations.

1. What happened to the three foods?
2. Did they disappear entirely?
3. Why did they not completely burn?
4. What was left?
5. What is the nature of ashes? What is the appearance of these ashes?

Conclusion.

Do foods contain minerals? What do you suppose is the nature of these minerals?

Practical Application.

Of what value could minerals be to the human engine?

APPENDIX B.

ADDITIONAL RECIPES.

Luncheon Dishes.

VEGETABLE SOUFFLÉ.

2 c. medium white sauce.
3 egg-yolks.
3 egg-whites.
1 tsp. chopped onion.
1 c. cooked, sieved vegetable.

1. Pour the hot white sauce on the beaten egg-yolks while stirring constantly.
2. Add the chopped onion and cool.
3. Then add the sieved vegetable and, when well mixed, carefully fold in the stiffly beaten egg-whites.
4. Turn into a greased casserole.
5. Set the casserole in a pan of hot water and bake in a moderate oven of 375° F. for 45 to 50 min.
6. Serve plain or with a sauce.

NOTE.—Canned or fresh spinach, peas, asparagus, cauliflower, and similar vegetables can be prepared in this way.

SAVOURY LIMA BEAN SCALLOP.

1½ c. dried lima beans.
1 small onion sliced.
½ tsp. salt.
1 c. diced celery.
2 tbsp. chopped green pepper.
1 c. condensed tomato soup.
½ c. water.
2 tbsp. melted butter.
⅛ tsp. pepper.
¼ c. buttered crumbs.

1. Soak the beans in cold water for 6–8 hr. Drain and cover with boiling water.
2. Add sliced onion and cook slowly until tender.
3. Drain, add salt, celery, green pepper, tomato soup, water, melted fat, pepper, and salt to taste.
4. Pour into greased casserole; sprinkle the top with the crumbs and bake in a hot oven of 400° F. for 30 min.
5. Bacon strips may be arranged on top of the casserole just before baking if it is to be served as a main dish.

CASSEROLE OF SPINACH.

2 lb. spinach.
2 c. medium white sauce.
1 tsp. grated onion.
2 hard-cooked eggs.
½ c. fine bread-crumbs.
2 tbsp. butter.

1. Wash and cook spinach until tender.
2. Season with ½ tsp. salt and ⅛ tsp. pepper.
3. Add grated onion and sliced hard-cooked eggs to the white sauce.
4. Place a layer of spinach in the bottom of a greased casserole, then one of white sauce.
5. Repeat these layers, having white sauce on top.
6. Combine bread-crumbs and butter and sprinkle on top.
7. Bake in a moderate oven of 375° F. for 30 min.

CORN PUDDING.

2 tbsp. fat.
2 tbsp. chopped green pepper.
1 tbsp. chopped celery.
1 small onion, chopped.
1 can corn.
1 chopped pimento.
1¼ tsp. salt.
⅛ tsp. pepper.
3 eggs, beaten.
2 c. milk.

1. Melt the fat in a saucepan.
2. Add the green pepper, celery, and onion and cook slowly for 5 min.
3. Then add the remaining ingredients, and turn into a well-greased baking-dish.
4. Set in a pan of hot water and bake in a slow oven of 325° F. for 75 min. or until a silver knife inserted into the centre of the mixture comes out clean.

Desserts.

PRUNE RICE PUDDING.

1 egg.
½ c. light-brown sugar.
1 tbsp. melted butter.
⅛ tsp. salt.
1 tsp. vanilla.
1 c. unsweetened prune-juice.
3 c. boiled rice.

1. Beat egg slightly. Add sugar, salt, vanilla, butter, and prune-juice.
2. Pour this mixture over boiled rice which has been placed in a greased baking-dish.
3. Bake in a hot oven of 400° F. for about 30 min.
5. Chill and top with whipped cream and several whole prunes.

LEMON PUDDING.

1 c. sugar.
1 tbsp. flour.
Salt.
1 c. sweet milk.
2 egg-yolks.
Juice and rind of 1 lemon.
2 egg-whites.

1. Beat egg-whites stiff.
2. Add dry ingredients.
3. Add egg-yolks, milk, and lemon.
4. Bake in a slow oven of 325° F. in a pan of water.

LEMON MIST PUDDING.

Follow recipe for Lemon Pie (page 107), varying procedure by folding in beaten egg-whites after the mixture is lukewarm.

APPLE COBBLER.

3 tart apples.
⅓ c. sugar.
1 c. raisins.
1 tbsp. butter.
½ c. sugar.
1 c. flour.
2 tsp. baking-powder.
¼ c. milk.
1 egg.
2 tbsp. melted butter.
1 tsp. vanilla.

1. Place the first *four* ingredients in a buttered baking-dish.
2. Mix the remaining ingredients according to the Muffin Method and pour over apple mixture.
3. Bake in a moderate oven of 400° F.

Miscellaneous.

WALNUT SQUARES.

First Part:

2 c. flour. ¾ c. butter.
¼ c. brown sugar (sifted).

1. Cream butter and sugar.
2. Add sifted flour.
3. Pack in a tin about 9 inches square and bake at 300°–325° F. for 15–20 min.

Second Part:

2 eggs. 2 tbsp. flour.
1½ c. brown sugar. 1 tsp. baking-powder.
½ c. cocoanut. Pinch of salt.
1 c. chopped walnuts. Few drops vanilla.

1. Sift brown sugar and mix with flour, baking-powder, and salt.
2. Add cocoanut, chopped walnuts, and vanilla.
3. Pour over first part and bake at 300°–350° F. for 40 min.

BRAN MUFFINS.

1¾ c. flour. ½ tsp. salt.
¾ c. bran. 1 egg beaten.
2 tbsp. sugar. 1 c. milk.
5 tsp. baking-powder. 4 tbsp. molasses.
4 tbsp. melted fat.

1. Sift together dry ingredients.
2. Mix milk, molasses, and beaten egg. Add to dry ingredients.
3. Stir well together and add melted fat.
4. Bake in greased muffin-pan in a hot oven of 400° F. for 25 min.

PLAIN ROCKS.

1½ c. + flour. 6 tbsp. fat.
2 tsp. baking-powder. ½ c. brown sugar.
½ tsp. salt. 1 egg.
3 tbsp. milk.

Mix according to general rules for Cookies.

NOTE.—These should be very stiff when mixed. Add more flour if necessary, or they will spread in baking.

Variations.

1. *Caramel.*—Replace milk with caramel syrup. (Two egg-yolks may be used in place of one egg.)
2. *Chocolate.*—Melt 2 squares of chocolate and add to above, or cook ¼ c. cocoa with ¼ c. milk.
3. *Chocolate Rolled Oats.*—Use 1 c. brown sugar, and in place of 1½ c. flour use:—

½ c. flour. ¼ c. cocoa.
1 c. rolled oats.

4. *Cocoanut.*—Add 1 c. cocoanut.
5. *Fruit Rocks.*—Add ½ c. dates, ¼ c. nuts, and ¼ c. cocoanut.

6. *Nut Balls.*—Roll mixture into balls. Dip in egg-white and roll in chopped nuts—⅔ c.

7. *Orange.*—Add rind of ½ orange and ½ lemon and replace milk with orange-juice. The use of 2 yolks instead of the whole egg will improve the colour.

8. *Peanut Butter.*—In place of 6 tbsp. fat use 3 tbsp. fat and 4 tbsp. peanut butter. Add 3 tbsp. white sugar and ¼ tsp. soda. Mark with a fork.

9. *Spice.*—Add to dry ingredients:—

¾ tsp. cinnamon.
¼ tsp. each of cloves, ginger, and nutmeg.

10. *Spice, II.*—To dry ingredients add:—

¼ tsp. cinnamon. ¼ tsp. ginger.
Rind of ½ lemon.

Lemon-juice might replace milk.

PORCUPINES.

20–24 dates. ⅔ c. sugar.
2 egg-whites. Shredded cocoanut.

1. See to oven.
2. Grease pans.
3. Wash dates and cut in half lengthwise.
4. Beat egg-whites until stiff.
5. Add sugar gradually.
6. Drop a piece of date in egg-white mixture and coat lightly. Lift out with spoon and drop into cocoanut.
7. Place "porcupine" on greased pan and bake in a moderate oven until delicately browned.

MARSHMALLOWS.

1. Brown 1 c. finely desiccated cocoanut. Spread on board when cool.
2. In a large bowl put:—

2 tbsp. gelatine. ⅓ c. cold water.

3. In a saucepan put:—

1½ c. sugar. ½ c. boiling water.

4. Place on stove and stir until sugar just dissolves.
5. Pour a little syrup over gelatine and stir well, then add remainder. Beat till very thick.
6. When nearly thick enough to hold its shape, add ½ tsp. vanilla.
7. When it will hold its shape, turn out on to cocoanut.
8. Cut in cubes and roll remaining sides in cocoanut.

Chocolate.—Add ⅓ c. cocoa and ¼ c. more water to syrup.

CHOCOLATE SNOWBALLS.

For centres.

1. Mash 3 tbsp. hot potato. Add immediately 1 c. sifted icing sugar and 2 tsp. vanilla.
2. Add 2 c. more icing sugar or enough to make a mixture stiff enough to roll into balls the size of a small marble. Place on wax-paper to dry slightly.

For Coating.

1. Place boiling water in the lower part of a double-boiler.
2. In the top, place 4 oz. sweet chocolate to melt. Do not place on stove.
3. Dip centres into chocolate to coat and roll in desiccated cocoanut.

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APPENDIX A.

APPENDIX B.

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Orange Cookies.

1 c. shortening
1 c. white sugar
½ c. brown sugar
1 egg
2 tbsp. orange juice
2¾ c. flour
½ tsp. salt
½ tsp. soda
1 tbsp. grated orange rind

Use cake method
Roll in balls - place on sheets press flat with a fork.
Bake in hot oven about 10 mins. 400° F.

Spiced Oatmeal Cookies.

2 c. rolled oats
2 c. flour
1½ c. brown sugar
1 c. shortening
2 egg
6 tbsp. syrup
1 tsp. soda
1 " cinnamon
½ tsp. allspice
½ " ginger

Mix according to the cake method, drop from spoon on cookie sheet about 2" apart (somewhat similar to Date cookies)
Bake 400° about 10 mins. Taste soft when they come out of oven but become crisp on cooling. Remove from pan immediately.

Chocolate Macaroons.

⅔ c. gran. sugar
4 egg whites
¼ c. cold water
2 oz. melted chocolate or 4 tbsp. cocoa
2½ c. shredded cocoanut
2 tsp. vanilla
½ tsp salt
1 tbsp. flour

Method
Let stop beat egg whites with water until stiff but not dry
Beat in the sugar, vanilla
Fold in flour & salt & cocoa (if using cocoa)
Fold in melted chocolate & cocoanut
Drop from a tsp. on even sheet about 1" apart
Cooked in a slow oven 325 - 225° - ½ hr. or 40 mins
When done firm & dry.

Coffee

2 lbs of coffee in half a bo
of water serves about 100 to 120

Salt

Bring water to boil before
putting in coffee